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ANNUAL REPORT

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OF THE

BOARD OF HEALTH

OF THE

CITY OF MANCHESTER, N. H.

FOR THE FISCAL YEAR ENDING

DECEMBER 31, 1889.



MANCHESTER:

PRINTED BY JOHN B. CLARKE.

1890.

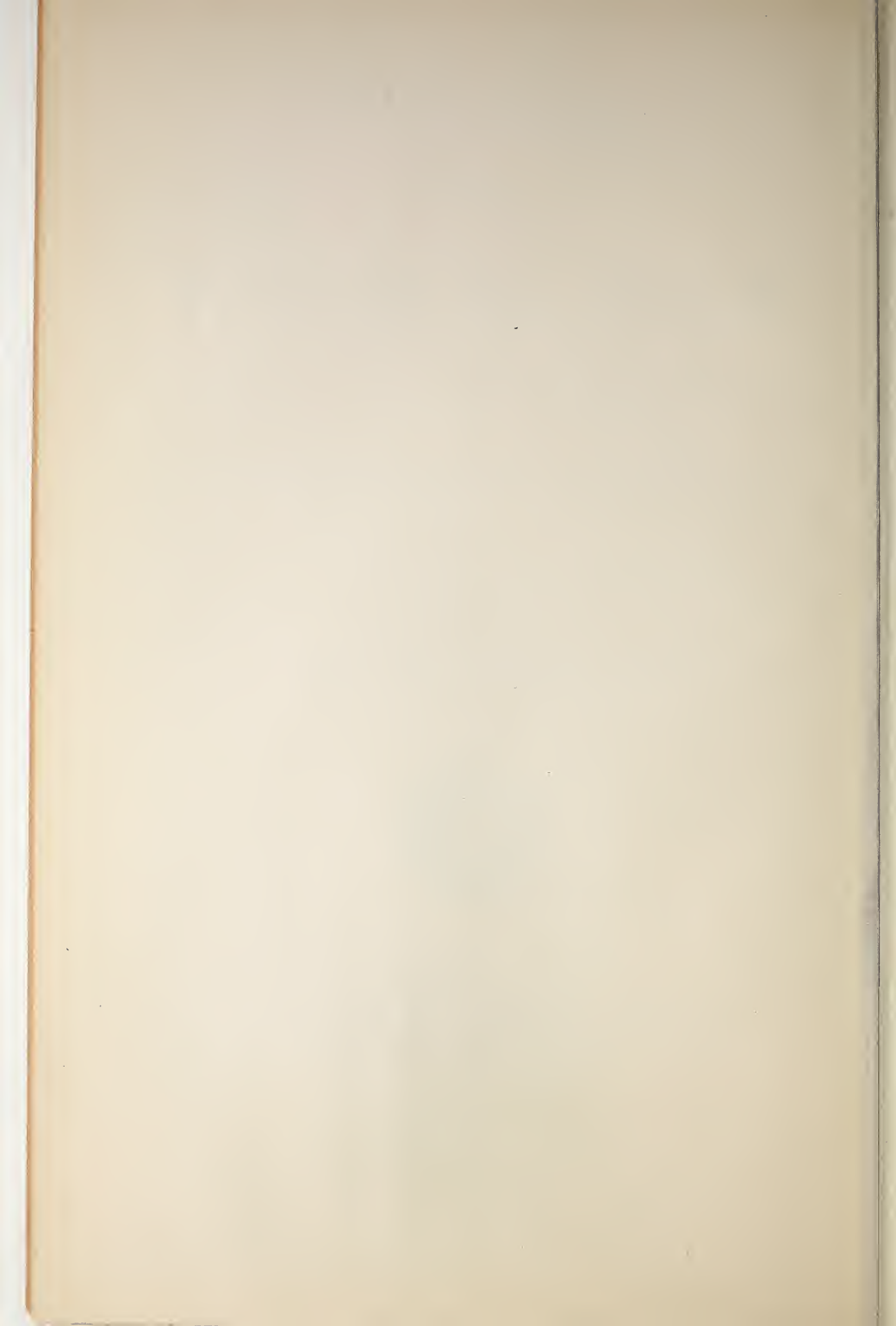


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REPORT OF THE BOARD OF HEALTH.

To His Honor the Mayor :

The Board of Health submits its report for the year 1889. At the beginning of the year the board consisted of George C. Hoitt, M. D., chairman, Joseph B. Sawyer, clerk, and William M. Parsons, M. D. On the first Monday of February the term of Mr. Sawyer expired, and he was reappointed for three years. On the same day the Board was re-organized by the re-election of the old officers, and as thus constituted and organized it has remained unchanged.

FINANCES.

The appropriation for the year was \$1,400. The Board has drawn against this as follows :

| | |
|-------------------------------------|-----------------|
| Pay of employés | \$629.50 |
| Street-car fares | 34.05 |
| Stationery and postage | 13.00 |
| Carriage-hire | 14.50 |
| Printing | 80.00 |
| Advertising | 43.90 |
| Traveling expenses | 48.34 |
| Fixtures at city hospital | 1.50 |
| Total | <u>\$864.79</u> |

This is seven dollars more than is charged against the Board by the city clerk. The discrepancy is occasioned

by two bills approved by us, and amounting to that sum, which were by him charged to some other account. In addition to the above amount drawn by the Board, the sum of two hundred and forty-three dollars has been drawn against the health department appropriation by other parties. In 1888 the amount thus drawn was seven hundred dollars. It is hoped that with the advent of a city auditor this practice has ceased.

WORK OF THE INSPECTOR.

Mr. Russell White has been employed throughout the year. His work, so far as it has been recorded, has been as follows :

Houses placarded for infectious diseases :

| | |
|-------------------------|-----|
| Scarlet fever | 224 |
| Diphtheria | 72 |
| Measles | 38 |
| — | 334 |

In a large proportion of these cases it has been necessary to notify school teachers and employers of the presence of the disease ; also it involves a second visit to the house for the purpose of removing the placard after the receipt of the doctor's certificate that the danger of infection has passed.

Number of privy-vaults inspected after being cleaned 1,204
Houses containing cases of typhoid fever visited . 35

Dead animals buried :

| | |
|------------------|----|
| Swine | 38 |
| Horses | 20 |
| Dogs | 16 |
| Cats | 8 |
| Skunk | 1 |
| — | 83 |

Two hundred and thirty-six inspections were made by him, resulting generally in finding nuisances, the abatement of which was secured. A considerable number of complaints have been investigated, and nuisances not complained of have been found and abated by the individual action of members of the board.

PRIVY-VAULTS.

The cleaning of privy-vaults by licensed parties using the so-called odorless process, has been continued during the year, and has caused very little inconvenience or complaint, not nearly so much as has the existence of the vaults themselves. Very few of our people would now tolerate the old style of night-work, with its accompanying stench, filth, and inefficiency. Two parties, Mr. Timothy McKenna and Mr. Timothy Shea have taken licences. The former has returned three hundred and forty-nine vaults cleaned, and the latter eight hundred and fifty-five. The Board has granted thirty-eight special permits for parties to clean their own vaults. The rule is to give these only in the outskirts of the city, where the lots are large, and where the contents of the vault are small in quantity, and to give them only after an examination of the premises. The conditions of the permit are :

That the cleaning shall be between sunrise and sunset; that the contents of said vault shall not be taken away from said premises, or carried over, or deposited upon, any street or highway, or the premises of any other person; that said contents shall not be buried deeply in the earth, but shall be thoroughly worked into the surface soil as manure; that the work of opening, removing, and depositing shall be so performed by the use of deodorizing and disinfecting agents that no offensive or noxious odors shall escape during the process; and that said permit shall not be valid after three days from its date.

The Board is considering measures for abolishing, or at least greatly diminishing, the number of these evil-smelling institutions in all the sewered parts of the city. The legislature at its last session passed the following act. It seems to give health officers all needed powers in this regard :

SECT. 1. If any person shall erect or continue any house of easement or privy, arranged for the storage of excrement, within one hundred feet of any public sewer, the health officers may direct such privy to be properly connected with said sewer, if in their judgment such action is necessary to abate a nuisance or for the public good ; and no privy, or pen, or sty for swine shall be erected or continued so near any street, dwelling, shop, or well of any person as in the judgment of the health officers to be a nuisance. Any person violating the provisions of this act, after due notice in writing from the health officers, shall be fined ten dollars, and a like fine for each month he shall continue to violate the same.

SECT. 2. This act shall take effect upon its passage, and section 11, chapter 111 of the General Laws is hereby repealed, and all other acts and parts of acts inconsistent with this act are hereby repealed.

THE DISPOSAL OF WASTE MATTERS.

The city dumping-places have for a long time been a fruitful cause of complaint from our citizens. At the request of this board, in May last a joint special committee of the City Councils was appointed to confer with the Board, and to examine and report as to some better way of disposing of these wastes. This committee has held several meetings, and has given the subject its earnest consideration. In September last, at the suggestion of the mayor, two members of the Board visited and examined the garbage furnaces at Newport, R. I., and at Fort Columbus and Coney Island near New York. The conclusions of the Board have in compliance with the request of the committee been embodied in a report, which, to-

gether with a draft of an order for building a crematory, and an ordinance providing for the collection and disposal of waste matters, has been laid before the City Councils. The report is as follows :

On account of the numerous and well-founded complaints from persons living near the city dumping-places, we have for many months had our attention directed to the question of the proper disposal of waste matters. We have availed ourselves of all accessible sources of information, and have personally examined the different ways in which the question is solved in several different places.

As a result of these investigations, we have become satisfied that our garbage should be burned, and that the Engle crematory is the one best adapted to the wants of the city. We therefore recommend that one of that pattern be built.

As to the location, we may say that we have been assured by health officers, by those in charge of the furnaces, and by persons living or working near them, as well as by those interested in the different furnaces, that the smoke and gases from the chimney do not cause a nuisance, and this we believe to be true of each of the three kinds of furnaces which we have examined. Still the nature of the work makes it proper that the location should be in some neighborhood away from residences, and where rough work is done. Another point to be considered is that the location should be as accessible as possible for the scavenger teams, both in respect to distances and grades, and taking into account the west side of the river and the corporations. A saving of \$5,000 in the first cost of a lot would be more than offset by an increase of one dollar per day in the cost of teaming. Minor considerations are that a sloping lot is better than a level one, and that it would be well to have it where fuel can be readily taken from the cars to the coal-shed. A lot containing 10,000 or 15,000 square feet would be of suitable size for the present and prospective needs of the city.*

The proposed ordinance above mentioned provides that the scavenger service shall be in the care of the superintendents of streets ; that they shall keep all organic waste,

* The cost of a furnace, including the royalty, with a smoke-stack seventy feet high, twenty feet of brick and fifty feet of iron, would be \$3,500. Substituting a brick chimney one hundred feet high, adding a suitable wooden

whether of animal or vegetable origin, separate from ashes and mineral wastes, using only the latter for filling new streets, and carrying the former to the crematory to be burned. It also requires that householders shall keep the two classes of wastes separate, using if necessary two receptacles therefor.

It is hoped that we are now on the road to a solution of this question. The present practice of making the fills in new streets in large part of swill, brush, straw, waste paper, dung, and small dead animals ought to cease. Manchester has many things to be proud of, but this is not one of them.

THE BACK STREETS.

We take the liberty to repeat the suggestions of our last annual report as to these thoroughfares. Many of them continue to be a reproach, not to say a disgrace, alike to the city and to the occupants of the adjoining property. Ungraded, uncurbed, unpaved, and muddy, it is perhaps to be expected that the abutters will think that the wastes from their houses and stables will not add perceptibly, or unlawfully, to the general filth and squalor. A beginning has, however, been made in grading and concreting, and we have one back street where the city has done its whole duty in this respect. Let us hope that the abutters will have sufficient pride and public spirit to do theirs without coercion.

THE CITY WATER SUPPLY.

Manchester has a water supply of exceptional purity and abundance, and it ought to be protected and pre-building over the furnace, and fencing the yard, would make the whole cost, aside from the lot, about \$5,000. The operating expenses would depend upon the quantity and quality of the material to be burned. As giving some indication of what can be done, it may be said that the furnace at Coney Island consumes the *debris* of that great seaside resort in six or eight hours per day, requiring about seven tons of coal per month, and the services of one man at fifty dollars per month.

served at any necessary cost. It is the duty and pleasure of this board to contribute what it may to all efforts to that end. The following regulations were adopted and published in September last. We have found the board of health of Auburn ready and zealous in their co-operation to secure the same result, and they have adopted the same regulations covering that part of the lake and its tributaries within their jurisdiction :

1. No privy, pigpen, or stable in which horses or other animals are kept shall be built or be continued within seventy-five feet of Massabesic Lake, or of any stream tributary thereto, except in such cases as the board of health may permit, and under such regulations and conditions as they may require.

2. No sink-water shall be allowed to run into the lake or its tributaries, or on the surface of any ground within one hundred feet of the lake or of any stream tributary thereto.

3. No dead animal or fish, or parts thereof, and no dung of man or beast, or kitchen wastes, shall be thrown into said lake, or left within seventy-five feet thereof; and no such substance shall be thrown into any stream tributary to said lake.

4. No sawdust shall be thrown or be allowed to fall into the lake, or into any stream tributary thereto.

CONTAGIOUS DISEASES.

The following table gives the number of cases of contagious diseases reported to the Board in each month, also the number of deaths which have resulted therefrom :

| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Totals. | Deaths. |
|--------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|---------|---------|
| Diphtheria..... | 6 | 2 | 2 | 10 | 4 | 6 | 8 | 6 | 10 | 13 | 7 | 5 | 79 | 23 |
| Scarlet Fever..... | 7 | 1 | 1 | 7 | 11 | 63 | 76 | 37 | 12 | 15 | 17 | 12 | 259 | 5 |
| Typhoid fever..... | .. | 1 | 1 | .. | .. | 1 | .. | 8 | 14 | 3 | 6 | 2 | 36 | 16 |
| Measles | .. | 1 | 1 | .. | 6 | 2 | 1 | 1 | .. | 1 | 10 | 31 | 54 | 4 |

Scarlet fever was epidemic in the summer, and has been present in every month of the year. It has, however, retained the same mild form which it has exhibited for the past five years, and has caused comparatively few deaths; considering the number of cases, it has been much less fatal than measles. Diphtheria has been with us in every month, and has proved fatal in about twenty-nine per cent of the cases. Typhoid fever prevailed most in the autumn, and it has slain about forty-four per cent of its victims.

The experience of another year has emphasized what we have said in previous reports as to the necessity of a hospital for contagious diseases. The value of isolation and disinfection in scarlet fever and diphtheria admits of no question; but among a large class of our population it is impossible to secure these conditions. A hospital should be provided and maintained at the public expense, with appointments and surroundings so inviting and comfortable that it would be esteemed a privilege for the sick children of the tenement blocks to be admitted there. If this were done, the tenement could be disinfected and the well members of the family could be allowed to go to their usual employments.

VITAL STATISTICS.

The vital statistics of the city are by law in the charge of the city clerk, but as he publishes no report, and as the subject is so closely related to the work of the health department, we take the liberty to present the following tables compiled from his books.

The estimate of population is based principally upon the number of polls taxed by the assessors, the figures for 1880, in which year the last enumeration was made, being 32,630 inhabitants, and 7,219 polls taxed. This gives a

ratio of a little more than four and one half to one. Since then the number of polls taxed has increased pretty regularly, so that last year it was 9,527, and if the same ratio still holds the population was nearly 43,000. We have thought it entirely safe to call it 42,000 in 1889, and to expect that the census of 1890 will show 43,000 or more.

By reference to the table of comparisons it will be seen that the number of deaths is smaller than in either of the two preceding years, and that the death rate is lower than it has been since 1885, when the board was organized and the compilation of the tables was begun. The number of deaths from the zymotic diseases was also less than in any other year covered by the table. It is to be remarked that during the five years measles and whooping cough have each caused more deaths than scarlet fever, the former more than four times as many. It is a lamentable fact, and one perhaps discreditable to our city, that forty-six per cent of the deaths are those of persons less than five years of age. This ratio is about double that for the whole State.

Of the 353 deaths of children, 86 were attributed to cholera infantum. This is likewise a smaller number than in any other year of which we have record. Some of our leading physicians say that the true cholera infantum is a disease comparatively rare in this city, and that much which passes for it should be returned as infantile diarrhea, a different and far more prevalent disease.

TABLE
SHOWING THE MORTALITY OF THE CITY BY DISEASES AND BY MONTHS
FOR THE YEAR 1889, COMPILED FROM THE RECORDS OF THE CITY
REGISTRAR.

| CAUSES OF DEATH. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Totals. |
|---------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|---------|
| <i>Zymotic.</i> | | | | | | | | | | | | | |
| Alcoholism, chronic | | 1 | | | | | | | | | | | 1 |
| Cholera infantum | | | | 1 | 1 | 17 | 28 | 18 | 14 | 5 | 1 | 1 | 86 |
| Cholera morbus | | | | | | | 1 | | | | | | 1 |
| Croup | 3 | 3 | 1 | | 1 | 2 | | 1 | 1 | 1 | 2 | 4 | 19 |
| " bronchial | | | 1 | | | | | | | | | | 1 |
| " membranous | | | 1 | | 1 | | | 2 | 1 | | | | 5 |
| Diarrhea | 1 | | | | | 1 | 2 | 1 | | | | | 5 |
| " chronic | 1 | | | | | | | | | | 1 | | 2 |
| Diphtheria | 3 | | 1 | 2 | | | | 3 | 6 | 5 | 3 | | 23 |
| Dysentery | | | | | | 1 | 3 | 1 | | 1 | 2 | | 8 |
| Fever | | | | | | | | | | | | | 1 |
| " congestive | | | | | | 1 | 1 | | | | | | 2 |
| " gastric | | | | | | | | 1 | | | | | 1 |
| " puerperal | | | | 1 | | | 1 | | | | | | 2 |
| " scarlet | | | | | | | 2 | 2 | 1 | | | | 5 |
| " typhoid | 1 | | 1 | 1 | | | | 2 | 3 | 2 | 4 | 2 | 16 |
| Inanition | 1 | | | | | 1 | 1 | | | | | | 3 |
| Malaria | | | | 1 | | | 1 | | | | 1 | | 3 |
| Measles | | | | | | | | | | | 2 | | 4 |
| Metritis | | 1 | | | | | | | | | | | 1 |
| Pyæmia | | | 1 | 1 | | | | | | 1 | | | 3 |
| Septicæmia | | | | | | | | | | | | 1 | 1 |
| Whooping cough | 1 | | | | | | 2 | 1 | | | 2 | | 6 |
| | 11 | 5 | 6 | 7 | 3 | 23 | 42 | 32 | 26 | 16 | 17 | 11 | 199 |

| CAUSES OF DEATH. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Totals. |
|-------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|---------|
| <i>Constitutional.</i> | | | | | | | | | | | | | |
| Anæmia | | | | | 1 | | | | | | | | 1 |
| " progressive | | | | | | | | | 1 | | | | 1 |
| Cancer | 1 | 2 | 1 | | 1 | 1 | 1 | | 4 | | | | 12 |
| " of bowels | | | | | | | | | | 1 | | | 1 |
| " of breast | | | 1 | | | | | | | | | | 1 |
| " of chin | | | | | | | | | | 1 | | | 1 |
| " of stomach | | | | | | | | | | | | 3 | 3 |
| " of womb | | | | | | | 1 | | | | | | 1 |
| Canker | | | | | 1 | | | | | | | | 1 |
| Carcinoma | | | | | | 1 | | | | | | | 1 |
| " uterine | | 1 | | | | | | | | | | | 1 |
| Consumption | 6 | 6 | 11 | 5 | 4 | 11 | 4 | 1 | 9 | 9 | 5 | 5 | 76 |
| " of bowels | | | | | | 1 | | | | | | | 1 |
| Dropsy | | 3 | | | | | | | 1 | | | | 4 |
| Rheumatism | 1 | 1 | 1 | | | | | | | | | | 3 |
| " of heart | | | | | | 1 | 1 | | | | | | 2 |
| " acute | | | 1 | | | 1 | 1 | | | | | | 3 |
| Rheumatic fever | | | | | | 1 | | | | | | | 1 |
| Sarcoma, uterine | | | | | | | | | | | | | 1 |
| Scrofula | | | | 1 | | | | | | | | | 1 |
| Sclerosis, spinal | | | | | | | | | | 2 | | | 2 |
| Tuberculosis | | | | | | | | 1 | | | | | 1 |
| " acute | | | | | | | 1 | | | | 1 | | 2 |
| | 8 | 13 | 15 | 6 | 7 | 18 | 8 | 2 | 15 | 14 | 5 | 9 | 120 |

TABLE. — *Continued.*

| CAUSES OF DEATH. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Totals. |
|--------------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|---------|
| <i>Local.</i> | | | | | | | | | | | | | |
| Abscess in head..... | | | | | 1 | 1 | | | | | | | 2 |
| Apoplexy..... | 2 | 2 | | 2 | 1 | 1 | 3 | 1 | | 2 | 2 | 1 | 17 |
| Appendicitis..... | | | | | | | 1 | | | | | | 1 |
| Asthma..... | | | | | | | | | | | 1 | | 1 |
| Biliary Calculus..... | | | | | 1 | | 1 | | | | | | 2 |
| Brain disease..... | 2 | | 1 | | | | 1 | 1 | 1 | | | | 6 |
| “ congestion..... | | 1 | 3 | | | | 1 | 1 | | | | | 5 |
| “ inflammation..... | | 1 | | | 1 | 1 | | | | 1 | | | 3 |
| Bright's disease..... | 2 | 1 | 1 | | 1 | 1 | | 1 | 1 | 1 | 3 | 1 | 12 |
| Bronchitis..... | 2 | 1 | 2 | 4 | 1 | 2 | | 1 | | 1 | 3 | 6 | 23 |
| “ acute..... | | | | 1 | | | | | | | | | 1 |
| “ capillary..... | 3 | | | | | 2 | | | 1 | 1 | | | 7 |
| “ chronic..... | 1 | | 2 | | 1 | | | | | | | | 4 |
| Bowels, inflammation..... | | | | | | | | | | | 1 | 1 | 2 |
| “ intussusception..... | | | 2 | | | | | | | | | | 2 |
| “ obstruction..... | | 1 | | | | | | | | | | | 1 |
| “ ulceration..... | 1 | 1 | | | | | | | | | | | 2 |
| Cerebritis..... | | | | | | | | | | 2 | | | 2 |
| Convulsions..... | | 1 | 1 | 2 | | | 2 | | 1 | | 3 | 1 | 11 |
| Cystitis..... | | | | | 1 | | | | | | | | 1 |
| Diabetes..... | 1 | | | | | 2 | | | | | | | 3 |
| Dyspepsia..... | | | | | | 1 | | | | 1 | | | 1 |
| Empyæmia..... | | | | | | 1 | | 1 | 1 | | | | 3 |
| Enteritis..... | 1 | | | | | | 1 | | 1 | | | | 3 |
| “ acute..... | | | | | | | 1 | | | | | | 1 |
| Epilepsy..... | | | | | | 1 | | | | | 1 | | 2 |
| Fright..... | 1 | | | | | | | | | | | | 1 |
| Gastritis..... | | 1 | | 1 | | | | | 1 | 1 | | 1 | 5 |
| Gastro-intestinal disease..... | | | | | | | | | | | | 1 | 1 |
| Headache..... | | | | | | | | | 1 | | | | 1 |
| Heart clot..... | | | | | | | | 1 | | | | | 1 |
| “ disease..... | 3 | 2 | 4 | 5 | 2 | 1 | 3 | 2 | 6 | 3 | 7 | 3 | 41 |
| “ “ valvular..... | | 1 | | | | | | 1 | 1 | | | | 3 |
| “ inflammation..... | 1 | | | | | | | | | | | | 1 |
| Hemorrhage, abdominal..... | | | | | | | | | | | 1 | | 1 |
| Hip disease..... | | | | | | | | | | | | | 1 |
| Icterus..... | | 1 | | | | | | | | | | | 1 |
| Liver, acute congestion..... | | | | | | | | 1 | | | | | 1 |
| “ cirrhosis..... | | | | | | | | 1 | | | | | 1 |
| “ disease..... | | | | | 1 | | 1 | | | 1 | | | 3 |
| “ yellow atrophy..... | | | | | | | 1 | | | | | | 1 |
| Lungs, congestion..... | 1 | 3 | 1 | 2 | | 3 | | | | 2 | | | 12 |
| “ hemorrhage..... | 1 | | 1 | 1 | | | | | | | | | 3 |
| Meningitis..... | 1 | 4 | | 1 | 1 | 1 | 3 | 1 | | 1 | | 2 | 15 |
| “ cerebral..... | | | | | 1 | 1 | | | | | | | 2 |
| “ tubercular..... | 1 | | 1 | 1 | | 1 | | | | | | | 4 |
| Metria-peritonitis..... | | | | | | | | | | | 1 | | 1 |
| Nephritis..... | | | | | | | 1 | | | | | | 1 |
| Paralysis..... | | | | 1 | | | | | 1 | 1 | | 2 | 5 |
| “ progressive..... | | | 1 | | | | | | | | | | 1 |
| “ spinal..... | 1 | | | | | | | | | | | | 1 |
| Peritonitis..... | | | 1 | 1 | | 1 | | | | | | | 3 |
| “ pelvic..... | | | | | | | | | | | 1 | | 1 |
| Pleurisy..... | | | | | | | 1 | | 1 | | 1 | | 3 |
| “ acute..... | 1 | | | | | | | | | | | | 1 |
| Pleuro-pneumonia..... | 1 | | | | | | | 1 | | | | | 2 |
| Pneumonia..... | 4 | 3 | | 5 | 5 | 1 | | 1 | 2 | 5 | 1 | 6 | 33 |
| “ typhoid..... | | | | | 2 | | | | 1 | | | | 3 |
| Rickets..... | | | | | 1 | | | | | | | | 1 |
| Sarcoma, multiple..... | | | 1 | | | | | | | | | | 1 |
| Stomach, hemorrhage..... | | | | 1 | | | | | | | | | 1 |
| “ inflammation..... | | | | | | | | | | | 1 | | 1 |
| “ tumor in..... | | | | | | | | 1 | | | | | 1 |
| | 31 | 25 | 22 | 28 | 21 | 21 | 20 | 14 | 20 | 23 | 26 | 26 | 277 |

TABLE.—Continued.

| CAUSES OF DEATH. <i>Developmental.</i> | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Totals. |
|---|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|---------|
| Confinement | | | | | 1 | | | | | | | | 1 |
| Debility, general | | 2 | 6 | 4 | 3 | 3 | 4 | 1 | 6 | | 1 | 1 | 31 |
| “ infantile | | | | | | | | | | | | 3 | 3 |
| Exhaustion | 1 | | | | | | | | | | | | 1 |
| Marasmus | | | 1 | | | | | 1 | | | | | 5 |
| Old age | 2 | | | 2 | 3 | 2 | 1 | 1 | 3 | | 2 | | 18 |
| Premature birth | | | | | | | 1 | 4 | | 4 | | | 9 |
| Puerperal hemorrhage | | | | | | | | | 1 | | | | 1 |
| “ septicæmia | 1 | | | | | | | | 1 | | | | 2 |
| Senile gangrene | | | | | | 1 | | | | | | | 1 |
| Still-births | 7 | 3 | 1 | 10 | 4 | 8 | 3 | 4 | 3 | 3 | 8 | 9 | 63 |
| Teething | | 1 | | | | 3 | | | | 2 | 4 | 1 | 14 |
| Umbilical hemorrhage | | | | | | | | | 1 | | | | 1 |
| | 11 | 6 | 8 | 16 | 11 | 17 | 9 | 11 | 18 | 13 | 15 | 15 | 150 |

| CAUSES OF DEATH. <i>Violent.</i> | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Totals. |
|-------------------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|---------|
| Accident, not specified. . . | | | | 1 | | | 1 | | | 1 | | | 3 |
| “ burns | | | 1 | | | | | | | | | | 1 |
| “ drowning | | 1 | | | | 1 | 1 | 1 | | 1 | | | 5 |
| “ elevator | | | | | | | | | | | | | 1 |
| “ fall | | 1 | | | 1 | | | | | | 1 | 1 | 4 |
| “ fracture of skull | | 1 | | | | | | | | | | | 1 |
| “ railroad | | | 1 | | | | | | 1 | 1 | | | 3 |
| “ concussion of brain | | | | 1 | | | | | | | | | 1 |
| “ asphyxia | | 1 | | | | | | | | | | | 2 |
| “ poisoning | | | | | | | | | | | | 1 | 1 |
| Suicide | | 1 | | | | 2 | | | | | | 1 | 4 |
| | | 5 | 2 | 2 | 1 | 3 | 2 | 1 | 1 | 3 | 1 | 5 | 26 |
| <i>Unclassified.</i> | | | | | | | | | | | | | |
| Cause not stated | 4 | 10 | 4 | 3 | 2 | 13 | 4 | 3 | 2 | 2 | 3 | 5 | 55 |

| | | | | | | | | | | | | | |
|---------------------------|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| Totals, all classes | 65 | 64 | 57 | 62 | 45 | 95 | 85 | 63 | 82 | 71 | 67 | 71 | 827 |
|---------------------------|----|----|----|----|----|----|----|----|----|----|----|----|-----|

| SUMMARY. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Totals. |
|----------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|---------|
| Zymotic | 11 | 5 | 6 | 7 | 3 | 23 | 42 | 32 | 26 | 16 | 17 | 11 | 199 |
| Constitutional | 8 | 13 | 15 | 6 | 7 | 18 | 28 | 2 | 15 | 14 | 5 | 9 | 120 |
| Local | 31 | 25 | 28 | 28 | 21 | 21 | 20 | 14 | 20 | 23 | 26 | 26 | 277 |
| Developmental | 11 | 6 | 8 | 16 | 2 | 17 | 9 | 11 | 18 | 13 | 15 | 15 | 150 |
| Violent | | 5 | 2 | 2 | 1 | 3 | 2 | 2 | 1 | 3 | 1 | 5 | 26 |
| Unclassified | 4 | 10 | 4 | 3 | 2 | 13 | 4 | 3 | 2 | 2 | 3 | 5 | 55 |

SOME COMPARISONS OF THE VITAL STATISTICS FOR THE LAST FIVE YEARS.

| | 1885. | 1886. | 1887. | 1888. | 1889. |
|--|--------|--------|--------|--------|--------|
| Population estimated | 38,000 | 38,000 | 40,000 | 41,000 | 42,000 |
| Number of deaths, exclusive of still-births..... | 733 | 725 | 798 | 853 | 764 |
| Deaths per thousand of population..... | 19.29 | 18.60 | 19.95 | 20.80 | 18.19 |
| Deaths of children under 5 years | 312 | 313 | 356 | 397 | 353 |
| Ratio, deaths of children to total deaths, per cent | 42.56 | 43.17 | 44.61 | 46.54 | 46.20 |
| Deaths of children per thousand of population..... | 8.21 | 8.03 | 8.90 | 9.68 | 8.40 |
| Deaths from zymotic diseases | 231 | 205 | 256 | 227 | 199 |
| Deaths from zymotic diseases per thousand of population..... | 6.08 | 5.26 | 6.40 | 5.54 | 4.74 |
| Cholera infantum..... | 89 | 115 | 148 | 115 | 86 |
| Consumption..... | 83 | 109 | 93 | 109 | 79 |
| Croup | 12 | 21 | 25 | 24 | 25 |
| Diphtheria | 18 | 9 | 17 | 30 | 23 |
| Bronchitis, all forms..... | 29 | 11 | 29 | 37 | 35 |
| Pneumonia, all forms | 42 | 26 | 39 | 45 | 38 |
| Heart disease, all forms..... | 40 | 37 | 45 | 23 | 47 |
| Scarlet fever..... | 5 | .. | 4 | 1 | 5 |
| Typhoid fever | 20 | 12 | 17 | 12 | 16 |
| Measles..... | 36 | 5 | 8 | 9 | 4 |

SOME COMPARISONS OF THE VITAL STATISTICS FOR THE LAST FIVE YEARS.—*Continued.*

| | 1885. | 1886. | 1887. | 1888. | 1889. |
|--------------------------------------|-------|-------|-------|-------|-------|
| Whooping-cough | 11 | 3 | 1 | 5 | 6 |
| Small-pox | 3 | .. | .. | .. | .. |
| Births reported | 1,106 | 1,207 | 1,391 | * 830 | .. |
| Births per thousand of population... | 29.11 | 30.95 | 34.77 | 20.24 | .. |
| Marriages reported..... | 404 | 451 | 473 | 439 | 506 |

* The returns are manifestly incomplete.

CONCLUSION.

We note with satisfaction the increasing attention given year by year to sanitation, and while far more is expected of the Board than formerly, our work is much facilitated by this change in the public estimation of its value and necessity, as well as by the disfavor of the community which usually meets any individual who attempts to disregard the suggestions or requirements of the Board. When such an one finds few or none to applaud his course, he usually concludes that discretion is the better part of valor.

The time is at hand, if indeed it be not already present, when some pretty radical changes ought to be made in the functions and methods of the Board. The public convenience requires that the Board should have a public office which should be kept open during business hours. It should have the control of the city hospital or pest-house, and of the registration of vital statistics. The city scavenger service would probably eventually be transferred to the health department, but as that would require a separate organization of men and teams, with a stable, it may well be doubted whether this is now expedient.

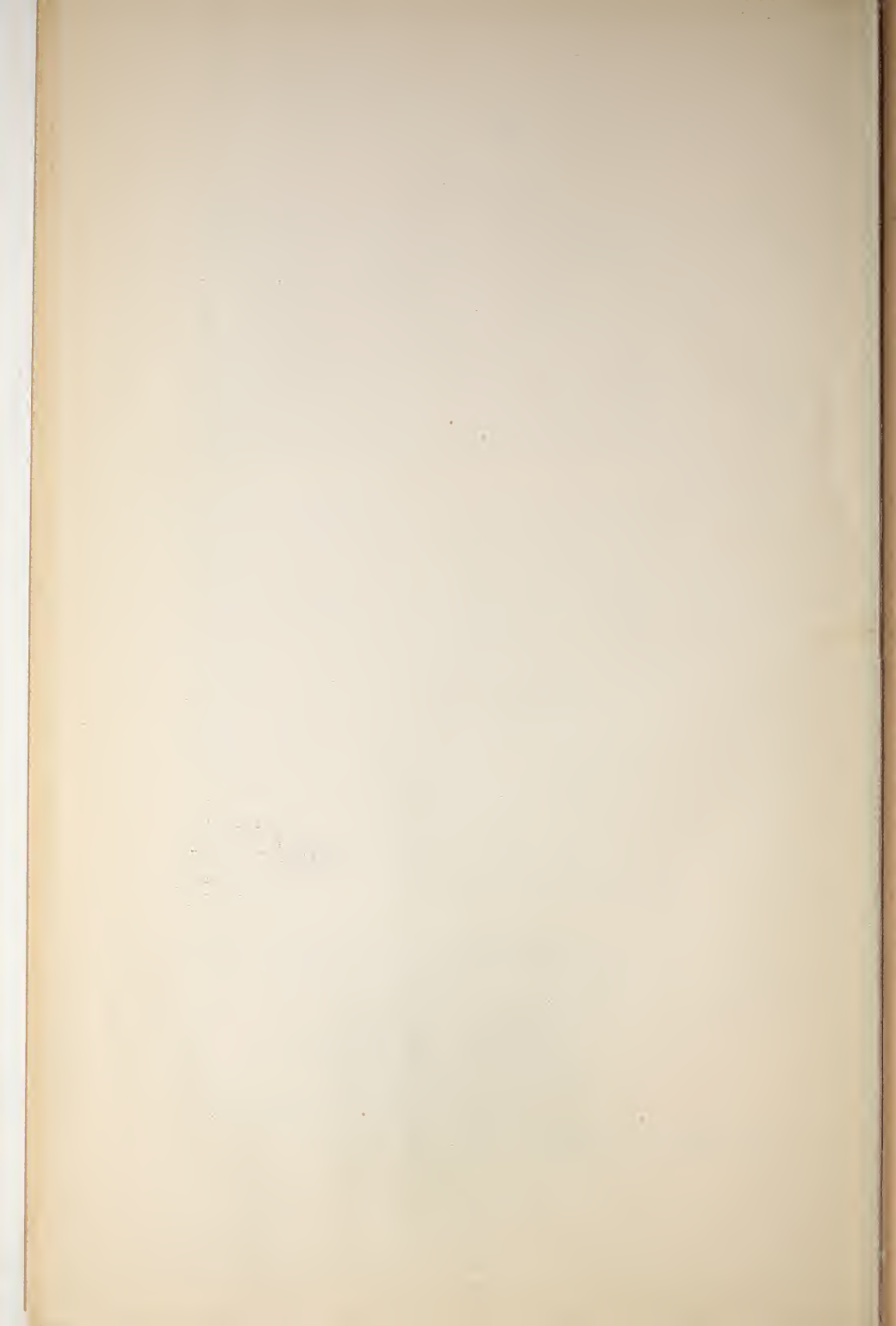
We acknowledge our obligations to the physicians of the city and to the daily papers for their helpful co-operation and suggestions, and we bespeak a continuance of their favors.

Our thanks are especially due to your Honor and to the City Councils for hearty and zealous assistance in the discharge of our duties.

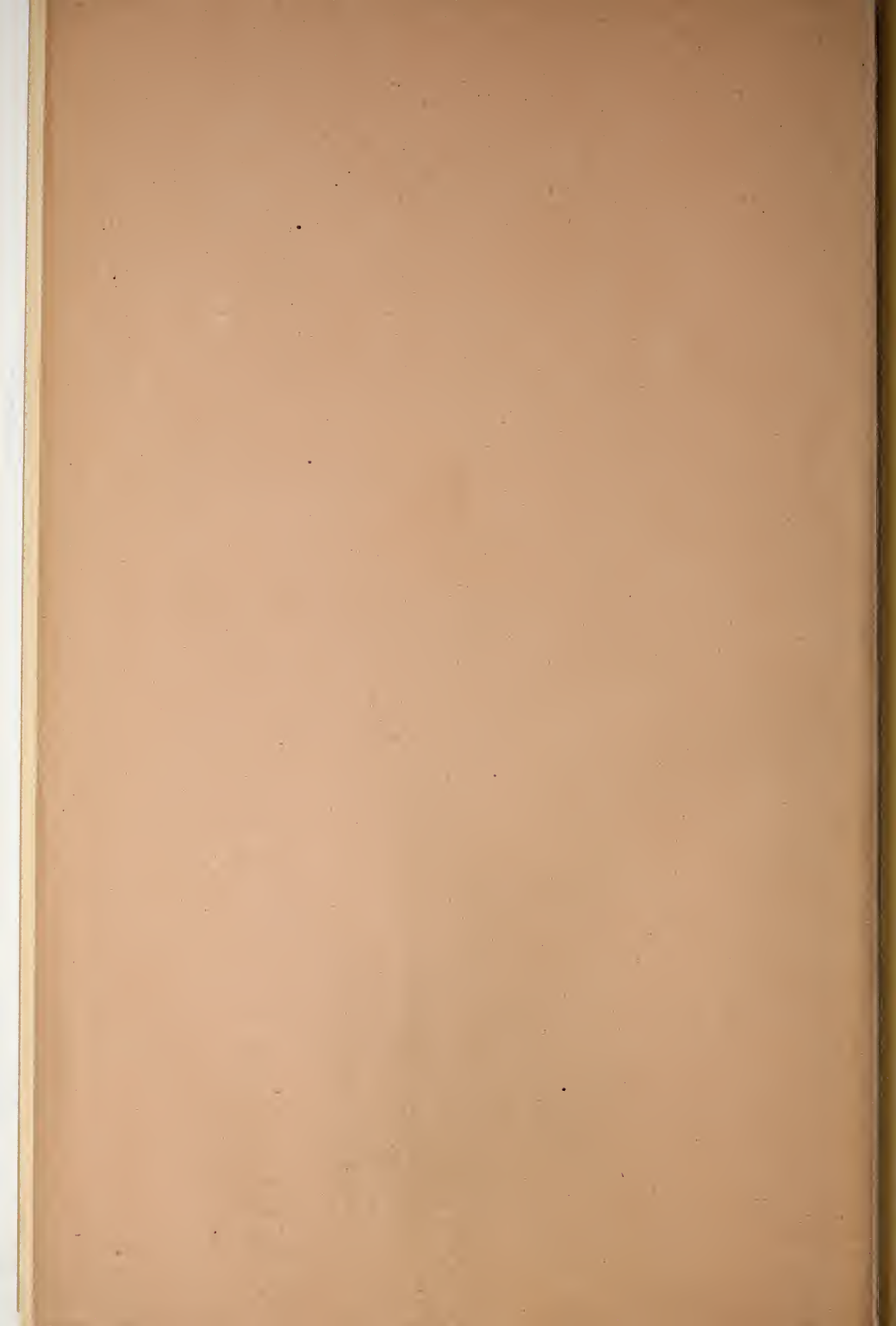
GEORGE C. HOITT,
JOSEPH B. SAWYER,
WM. M. PARSONS,

Board of Health of Manchester.

MANCHESTER, N. H., Mar. 17, 1890.







ANNUAL REPORT

OF THE

BOARD OF HEALTH

OF THE

CITY OF MANCHESTER, N. H.,

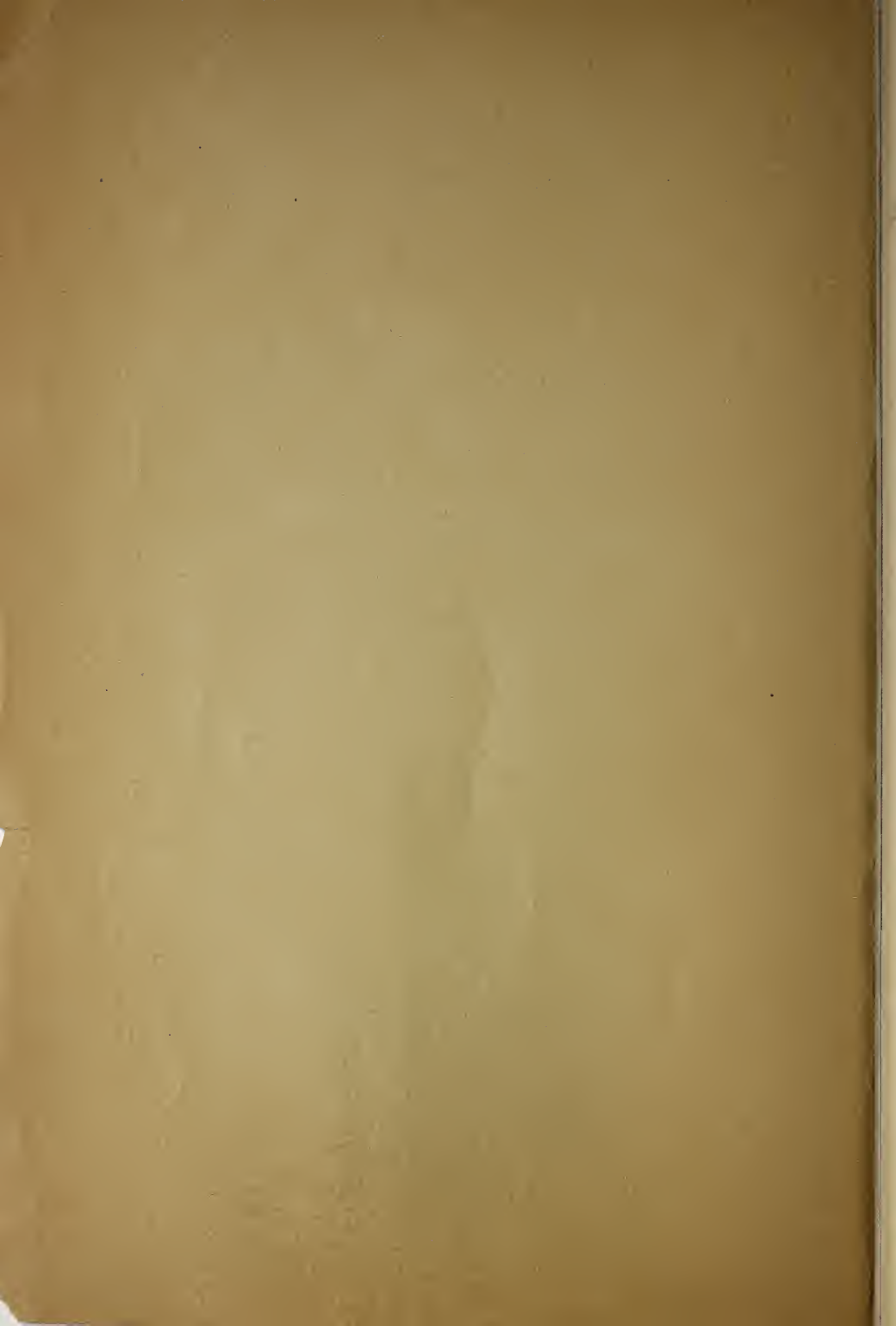
FOR THE YEAR 1890.



MANCHESTER, N. H.:

PRINTED BY JOHN B. CLARKE.

1891.



ANNUAL REPORT

OF THE

BOARD OF HEALTH

OF THE

CITY OF MANCHESTER, N. H.,

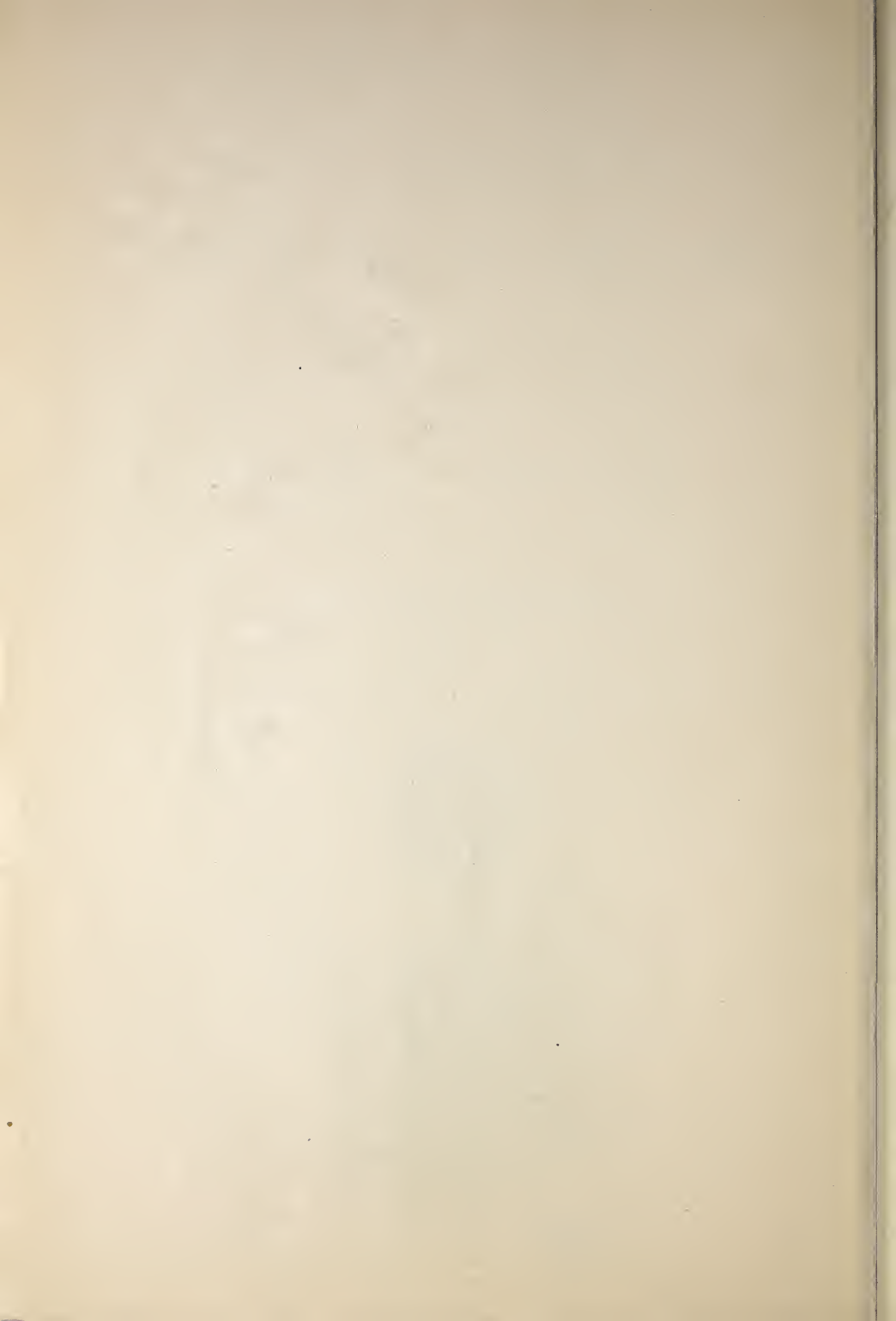
FOR THE YEAR 1890.



MANCHESTER, N. H.:

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1891.



REPORT OF THE BOARD OF HEALTH.

To His Honor the Mayor :

The Board of Health submits its report for the year 1890.

At the beginning of the year the Board consisted of George C. Hoitt, M. D., chairman ; Joseph B. Sawyer, clerk, and William M. Parsons, M. D. On the first Monday in February the term of Dr. Hoitt expired, and he was re-appointed for three years. On the same day, as by law required, the Board was reorganized, the old officers being re-elected, and it has since remained unchanged

EMPLOYEES.

Mr. Russell White has been employed throughout the year, and Mr. C. H. Reed about one month in July and August, in the ordinary work of the department. Mr. Patrick Dobbins, special police officer, was employed twenty-two days in watching an infected house and family.

EXPENDITURES.

The expenditures of the Board have been :

| | |
|--|----------|
| Pay of employés | \$679.00 |
| Street-car fares | 41.80 |
| Stationery, postage, and express charges | 18.24 |
| Carriage hire | 12.50 |
| Printing | 39.65 |
| Traveling expenses | 2.49 |
| Fixtures | .90 |
| Assistance in burying dead animals | 10.00 |
| Analysis of water | 28.65 |

| | |
|---|----------|
| Special police | \$38.50 |
| Cleaning vault of shoe shop, 1888 | 42.50 |
| Posting regulations | 2.75 |
| Examination of Lake Massabesic | 23.50 |
| | <hr/> |
| | \$940.48 |

To this amount seven dollars may be added, that being the amount of two bills approved by the Board in the preceding year, but which laid over in the hands of the auditor, and were included in the January draft.

The salaries of the members of the Board have been charged to this account, making the whole expenditures of the health department \$1,547.48.

In the summer of 1888 the contents of a large privy-vault at the shoe shop in Hallsville overflowed, ran into the highway, and became a public nuisance. The proper parties were notified to empty the vault, but they refused or neglected to do so, whereupon the Board proceeded to abate the nuisance by having the vault emptied. A suit to recover the cost of the work was commenced, and was to have been tried at the last September term of court, but it was settled or compromised in some manner without the consent of this Board.

WORK OF THE INSPECTOR.

Houses placarded for infectious diseases :

| | |
|-------------------------|-------|
| Scarlet fever | 63 |
| Diphtheria | 41 |
| Measles | 298 |
| | <hr/> |
| | 402 |

In a large part of these cases it has been necessary to notify school teachers and employers of the existence of the disease ; also it is necessary to make a second visit to the house for the purpose of removing the placard after the receipt of the doctor's certificate that the danger of infection has passed.

| | |
|--|-------|
| Houses containing cases of typhoid fever visited . . . | 36 |
| Privy-vaults inspected after being cleaned : | |
| Cleaned by A. McDougall | 23 |
| “ T. Shea | 773 |
| “ T. McKenna | 592 |
| | <hr/> |
| | 1,388 |

Dead animals buried :

| | |
|--|-------|
| Swine | 6 |
| Horses | 20 |
| Dogs | 37 |
| Cats, hens, and skunk | 23 |
| | <hr/> |
| | 86 |
| Other nuisances found and abated | 351 |

SLAUGHTER HOUSE AT BAKERSVILLE.

In August last a complaint was made by Mr. N. S. Burns and others, residents of Bakersville, of a nuisance caused by the slaughtering and rendering works of the Manchester Beef Co., and a public hearing was given on the subject of the complaint. The hearing occupied two half-days. Many witnesses were examined, the works were repeatedly visited by the Board and by its individual members, and all practicable means were used to arrive at the truth in the case. It appeared that earlier in the season the establishment had been a nuisance, but that the work was then being carried on by the use of improved methods and apparatus by which the bad smells and noises were to a great extent obviated. The decision was that the works did not then create a nuisance of such a character as to require their stoppage or removal.

The establishment has since been visited occasionally by members of the Board, and has always been found clean and free from anything which could be considered a nuisance injurious to the public health.

TUBERCULOSIS.

The duty of guarding against the spread of contagious diseases among domestic animals is by statute laid on the Mayor and Aldermen, but as tuberculosis is so closely related to the public health of mankind it becomes the duty of the Board of Health to take cognizance of it also.

Last autumn the disease was found or suspected in the herd at the farm of the State Industrial School in this city. The Mayor and Mr. Ray, the superintendent, thereupon employed F. J. Smith, V. S., of Rochester, to examine the herd. Two members of this Board were present by request of the Mayor and assisted in the examination. The herd consisted of twenty-seven animals, all of which were condemned and killed, and in every case the diagnosis of Dr. Smith was fully confirmed by post mortem examination.

The flesh of all the animals was condemned and buried by order of the Board, thus making sure that it would not be bought ostensibly for the rendering shop, but really for the market.

The affair created a great excitement, and the most absurd rumors found circulation and credence; but when, a few days afterwards, one or two animals belonging to other herds were condemned by Dr. Smith, and on post mortem examination showed only very equivocal indications of the disease, the pendulum of popular rumor swung equally suddenly and absurdly to the opposite extreme, and an unwarranted feeling of security against this insidious and dangerous disease now pervades the community. The foremost sanitarians and biologists in the world, together with the great majority of observant physicians, are agreed that tuberculosis is the same disease in man and in beast, and is communicable.

CONTAGIOUS DISEASES.

The following table gives the number of cases of contagious diseases reported to the Board in each month, also the number of deaths which have resulted therefrom.

| | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. | Deaths. |
|--------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|---------|
| Diphtheria | 0 | 5 | 17 | 6 | 5 | 3 | 2 | 1 | 2 | 0 | 0 | 0 | 41 | 9 |
| Scarlet fever..... | 7 | 22 | 11 | 2 | 3 | 1 | 1 | 2 | 0 | 2 | 5 | 7 | 63 | 3 |
| Typhoid fever..... | 2 | 0 | 0 | 0 | 4 | 0 | 2 | 3 | 8 | 4 | 2 | 11 | 36 | 17 |
| Measles..... | 65 | 59 | 105 | 55 | 2 | 2 | 8 | 1 | 0 | 1 | 0 | 0 | 298 | 6 |

The epidemic of measles began in the fall of 1889, there having been one case in October, ten in November, and thirty-one in December of that year. The table indicates that about two per cent of the cases of that disease have been fatal ; but this is misleading, because while the return of deaths is complete that of cases is not so. Many cases of measles to which no doctor is called do not come to the knowledge of this Board. The same is true, although perhaps to a less extent, of scarlet fever. The law does not, as it should, require householders to report cases of contagious disease. The fatalities in scarlet fever have been less than five per cent, while in diphtheria they have been twenty-two per cent, and in typhoid fever forty-seven per cent of the number of cases. Small-pox has been absent since 1885. Influenza or *grippe* prevailed extensively in January, and to some extent in the following months. Some statistics gathered at the close of January showed that in a population of 13,823 persons employed in some of the principal mills, shops, and other establishments of the city, 4,969 had during the month been absent from work one or more days on the plea of sickness. This indicates that one third of the whole population suffered in that month from the epidemic. Information from the schools, both public and private, points to the same conclusion.

TABLE

SHOWING THE MORTALITY OF THE CITY BY DISEASES AND BY
MONTHS FOR THE YEAR 1890, COMPILED FROM
THE RECORDS OF THE CITY REGISTRAR.

| CAUSES OF DEATH. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Totals. |
|---------------------------|----------|-----------|--------|--------|-------|-------|-------|---------|------------|----------|-----------|-----------|---------|
| Abscess, parotid..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | 1 |
| “ abdominal..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | 1 |
| “ of brain..... | ..... | 1 | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 |
| “ of heart..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| Accident, not specified.. | 1 | ..... | ..... | 1 | 1 | 2 | ..... | ..... | ..... | 1 | ..... | ..... | 6 |
| “ drowning..... | ..... | ..... | ..... | ..... | ..... | ..... | 3 | ..... | ..... | 1 | ..... | ..... | 4 |
| “ burns..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| “ pistol-shot..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | 1 |
| “ fall..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| “ railroad..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| “ suffocated, sm’ke..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| “ concussion..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | 2 |
| Alcoholism..... | 2 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2 |
| Anæmia..... | 1 | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | 1 | ..... | ..... | 3 |
| Angina pectoris..... | ..... | 1 | 1 | 1 | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | 4 |
| Apoplexy..... | 1 | ..... | 1 | ..... | 1 | 1 | 2 | ..... | 1 | 2 | 2 | 2 | 13 |
| Apthæ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | 1 |
| Asthma..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | 2 |
| “ bronchial..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| Bowels, inflammation..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | 2 |
| “ perforation..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| “ hemorrhage..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | 1 | ..... | ..... | 2 |
| Brain, disease of..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| “ congestion..... | 1 | 1 | ..... | ..... | ..... | 1 | 1 | ..... | 3 | 3 | ..... | ..... | 10 |
| “ embolism..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | 1 |
| “ inflammation..... | ..... | ..... | ..... | 1 | 2 | 1 | 1 | ..... | ..... | 1 | ..... | ..... | 6 |
| Bright’s disease..... | 3 | 2 | ..... | 1 | 1 | ..... | ..... | ..... | 1 | ..... | ..... | ..... | 13 |
| Bronchitis..... | 4 | 1 | 5 | 3 | ..... | ..... | 1 | 4 | 1 | 1 | 3 | ..... | 18 |
| “ acute..... | ..... | ..... | 1 | ..... | ..... | 3 | ..... | ..... | ..... | ..... | ..... | ..... | 4 |
| “ capillary..... | 3 | ..... | ..... | 1 | 1 | 1 | ..... | ..... | 2 | ..... | 1 | ..... | 10 |
| “ chronic..... | ..... | ..... | ..... | 1 | 1 | ..... | ..... | ..... | 1 | 2 | ..... | 1 | 6 |
| Cancer..... | 1 | ..... | 2 | 1 | ..... | 1 | ..... | 3 | ..... | ..... | ..... | ..... | 9 |
| “ scirrhus..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | 1 |
| “ of breast..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | 1 |
| “ of lip..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | 1 |
| “ of pancreas..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| “ of stomach..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | 2 |
| Cerebritis..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| Cholera infantum..... | ..... | 1 | ..... | ..... | ..... | 3 | 45 | 53 | 26 | 9 | 2 | 1 | 141 |
| Colic..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| Consumption..... | 20 | 3 | 2 | 5 | 8 | 10 | 8 | 9 | 9 | 8 | 3 | 9 | 94 |
| “ infantile..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| Convulsions..... | 3 | 2 | 2 | 1 | ..... | ..... | 2 | 2 | 1 | ..... | 1 | ..... | 14 |
| Croup..... | 2 | 2 | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| “ membranous..... | 1 | 3 | 1 | ..... | 1 | ..... | 2 | 1 | ..... | ..... | 1 | ..... | 9 |
| Cystitis..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | ..... | ..... | ..... | ..... | ..... | 1 |
| Debility..... | 3 | ..... | 4 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 8 |
| “ general..... | 6 | ..... | ..... | ..... | ..... | 2 | 3 | 3 | 5 | 5 | 3 | 2 | 29 |
| “ infantile..... | ..... | ..... | 1 | 1 | ..... | ..... | ..... | ..... | ..... | ..... | 1 | ..... | 3 |

TABLE. — *Continued.*

| CAUSES OF DEATH. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Totals. |
|---------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|---------|
| Decline..... | | | 1 | | | | | | | | | | 1 |
| Diarrhea..... | | | | | | | 1 | | 1 | | 1 | | 3 |
| " chronic..... | 1 | 2 | 1 | | | | | | | | | | 4 |
| " infantile..... | | | | | | | | 1 | | | | | 1 |
| " inflammatory..... | | | | | | | | 1 | | | | | 1 |
| Diabetes..... | 1 | | | | 1 | | | | 1 | 2 | | | 5 |
| Diphtheria..... | | | | 3 | 4 | 2 | | | | | | | 9 |
| Dropsy..... | | | | | | | | | | | | 2 | 2 |
| " acute..... | | | | 1 | | | | | | 1 | | | 1 |
| Dysentery..... | | | | | | 1 | 1 | 1 | 2 | | | 1 | 6 |
| Dyspepsia..... | | | | | | | | | | | | 1 | 1 |
| " chronic..... | | | | | | | | 1 | | | | | 1 |
| Enteritis..... | | | | | | | | 1 | 1 | | | 1 | 3 |
| " acute..... | | | | | | | | | | | 1 | | 1 |
| Epilepsy..... | | | 1 | | | | | | | | 1 | | 2 |
| Exposure..... | | | | | | | 1 | | | | | | 1 |
| Fever, brain..... | | | | | | | | | 1 | 2 | | | 3 |
| " gastric..... | 1 | | | | | | | | | | 1 | | 2 |
| " scarlet..... | | 3 | | | | | | | | | | | 3 |
| " typhoid..... | 2 | | | | 1 | | 1 | 2 | 3 | | 3 | 5 | 17 |
| Grippe..... | 10 | 2 | 3 | | | | | | | | | | 18 |
| Gall-stones..... | | | | | | | | | | | 1 | | 1 |
| Gastritis..... | | | 1 | | | | 1 | | 1 | | | 1 | 4 |
| Gangrene, senile..... | | | | | | 1 | | | | | | | 1 |
| Headache..... | | | | 1 | | | | | | 1 | | | 2 |
| Heart disease..... | 5 | 2 | 2 | 3 | 1 | 1 | 1 | 4 | 3 | 5 | 2 | | 29 |
| " failure..... | 2 | | 2 | 1 | | | | | | | 1 | 1 | 7 |
| " valvular disease..... | 2 | | 1 | 1 | | | | | | | | 1 | 5 |
| " fatty degeneration..... | | | | 1 | 1 | | | | | | | | 2 |
| Hemorrhage..... | | | | | 1 | | | | | | | | 1 |
| " cerebral..... | | | | | | | | | | | 1 | | 1 |
| Hepatitis..... | 1 | 1 | | | | | | | | | | | 2 |
| Hernia..... | | | | | 1 | | | | | | | | 1 |
| " strangulated..... | | | | 1 | | | | | | 1 | | | 2 |
| Ileocolitis..... | | | | | | | 1 | | | | | | 1 |
| Inanition..... | | | 1 | 1 | | 2 | | | 1 | 1 | 2 | | 8 |
| Infanticide..... | | | 1 | | | | | | | | | | 1 |
| Influenza..... | 1 | 1 | | | | | | | | | | | 2 |
| Insanity..... | | | | | | | | | 1 | | | | 1 |
| Kidneys, disease..... | | 1 | 1 | | | | | | | | | | 2 |
| " congestion..... | | | 1 | | | | | | | | | | 1 |
| " inflammation..... | | | | | | | | | | | | 1 | 1 |
| Leucocythemia..... | | 1 | | | | | | | | | | | 1 |
| Liver, disease..... | | | | 2 | | | | 1 | | | | | 3 |
| Lungs, congestion..... | 3 | | | | 2 | | 1 | | | | | 4 | 10 |
| " hemorrhage..... | | | 1 | | | | | | | | | 1 | 2 |
| " inflammation..... | | | | | | | | | | | | 1 | 1 |
| Malaria..... | | 1 | 1 | | | 1 | | | | | | | 3 |
| Marasmus..... | | | 1 | | 1 | 1 | 3 | 1 | 2 | 1 | | | 10 |
| Measles..... | 1 | 1 | 2 | 1 | | | | 1 | | | | | 6 |
| Meningitis..... | 2 | 2 | | | | 1 | 1 | | 3 | | 1 | 1 | 11 |
| " acute..... | | | | | | | 3 | | | | | | 4 |
| " cerebral..... | | | | | 1 | 1 | | | | | | | 2 |
| " chronic..... | 1 | | | | | | | | | | | | 1 |
| " tubercular..... | 1 | 1 | 1 | | | | 1 | 1 | | | | | 5 |

TABLE. — *Concluded.*

| CAUSES OF DEATH. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Totals. |
|----------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|---------|
| Metritis..... | | | | | | | | | | | | 1 | 1 |
| Nephritis..... | | | 1 | | | | | | | | | 1 | 2 |
| " acute..... | | | | | | 1 | | | 1 | | | 1 | 3 |
| " chronic..... | | | | | | | | 1 | | | | | 1 |
| Nervous exhaustion..... | 1 | | | | | | | | | | | | 1 |
| Neuralgia..... | | | | | | 1 | | | | | | | 1 |
| Old age..... | 6 | 1 | 1 | 3 | 2 | 3 | 2 | 1 | 1 | 1 | | 2 | 23 |
| Otitis media..... | | | | | | | | | 1 | 1 | | | 2 |
| Paralysis..... | | 2 | | | | | | | 1 | 4 | 1 | | 8 |
| Paresis..... | | | | | | | 1 | | | | | | 1 |
| Peritonitis..... | | | 1 | 1 | | | | | | | | | 2 |
| Pleuro-pneumonia..... | | | | | | | | 1 | 1 | | 1 | | 3 |
| Pneumonia..... | 14 | 3 | 6 | 2 | 4 | 1 | 4 | 1 | 4 | | | 6 | 45 |
| " bronchial..... | 1 | | | | | | | 1 | | 1 | | | 3 |
| " catarrhal..... | | | 1 | | | | | | | | | | 1 |
| " typhoid..... | 4 | 2 | | | | | | | | 1 | 1 | | 8 |
| " croupous..... | | | | | | | | | | | | 1 | 1 |
| Pott's disease..... | | | | | 1 | | | | | | | | 1 |
| Premature birth..... | | 1 | 3 | 3 | 2 | | | | | | | 1 | 10 |
| Prostate, disease of..... | | | | | 1 | | | | | | | | 1 |
| Pyæmia..... | | | 1 | | 1 | | | | | | | 1 | 3 |
| Rheumatism..... | 1 | | 1 | | | | | | | 1 | | | 3 |
| Rickets..... | | | | | | | | | | | | 1 | 1 |
| Sclrrhus of liver..... | | 1 | | | | | | | | | | | 1 |
| " of stomach..... | | 1 | | | | | | | | | | | 1 |
| Scrofula..... | | | | | | | | 1 | | | | | 1 |
| Septicæmia..... | | | | 2 | | 1 | | | | | | | 3 |
| Sore throat..... | 1 | | | | 1 | | | | | | | | 2 |
| Spine, disease of..... | 1 | | | | | | | | | 1 | | | 2 |
| Still-born..... | 7 | 1 | 13 | 4 | 4 | 4 | 4 | 2 | 3 | 5 | 9 | 7 | 63 |
| Stomach, inflammation..... | | | | | | | | | | | | 1 | 1 |
| " ulceration..... | | | | | | | 1 | | | | | | 1 |
| Suicide by drowning..... | | | | | 1 | | | | | | | | 1 |
| " by opium..... | | 1 | | | | | | | | | | | 1 |
| Teething..... | 2 | 1 | | | | 2 | 1 | 1 | 3 | 1 | | | 11 |
| Tonsillitis..... | | | 1 | | | | | | | | | | 1 |
| Tuberculosis..... | | | 2 | | | | | | | | | 1 | 3 |
| " of kidneys..... | | | | | | | | 1 | | | | | 1 |
| " acute..... | | 1 | 1 | | | | | | | | | | 2 |
| Tumor..... | | | | 1 | | | | | | | | | 1 |
| " abdominal..... | | | | | | | 2 | | | | | | 2 |
| " of brain..... | | | | | | | | 1 | | | | | 1 |
| " fibroid..... | | | | | | | | | | | 1 | | 1 |
| Ulcers, chronic..... | | 1 | | | | | | | | | | | 1 |
| Uræmia..... | | | 1 | | | | 1 | | | | | | 2 |
| Whooping cough..... | 1 | | | | | | 1 | 1 | 1 | | | | 4 |
| Wound, old..... | | | | | 1 | | | | | | | | 1 |
| Cause not stated..... | 5 | 2 | 5 | 6 | 1 | 9 | 21 | 3 | 4 | 4 | 3 | 3 | 66 |
| Totals..... | 137 | 56 | 83 | 56 | 52 | 61 | 126 | 106 | 93 | 72 | 51 | 71 | 964 |

| CLASSIFICATION. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Totals. |
|---------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|---------|
| Zymotic..... | 22 | 16 | 11 | 6 | 8 | 8 | 51 | 61 | 36 | 11 | 12 | 10 | 252 |
| Constitutional..... | 23 | 7 | 8 | 6 | 8 | 12 | 9 | 14 | 12 | 11 | 5 | 13 | 128 |
| Local | 61 | 26 | 32 | 25 | 21 | 15 | 28 | 20 | 27 | 29 | 18 | 31 | 333 |
| Developmental | 24 | 4 | 24 | 12 | 9 | 15 | 13 | 8 | 14 | 14 | 12 | 14 | 163 |
| Violent..... | 2 | 1 | 3 | 1 | 5 | 2 | 4 | .... | .... | 3 | 1 | .... | 22 |
| Unclassified..... | 5 | 2 | 5 | 6 | 1 | 9 | 21 | 3 | 4 | 4 | 3 | 3 | 66 |
| Totals..... | 137 | 56 | 83 | 56 | 52 | 61 | 126 | 106 | 93 | 72 | 51 | 71 | 964 |

The number of persons whose remains were brought from other places for interment here is as follows: January, 14; February, 10; March, 6; April, 7; May, 6; June, 9; July, 8; August, 14; September, 7; October, 12; November, 8; December, 7. Total, 108.

The number of deaths was larger than in any former year, being nine hundred and one against seven hundred and sixty-four for the previous year, and eight hundred and fifty-three in 1888. The rate per thousand of population was 20.49 against 17.90 the year before. The increase occurred mostly in the months of January, July, August, and September, and was due to an increase of bowel diseases in children in the warm months, and probably to the influenza or *grippe* which prevailed in January. During the year *grippe* and influenza are charged with twenty deaths, and they may have added malignity to some other diseases. There was a noticeable increase in the number of deaths from heart diseases, bronchitis, and pneumonia. The number of deaths from consumption in January was twenty, against an average of about eight in former years, but the number for the whole year was not above the average.

The sixty-six deaths from causes not stated are mostly those of children less than one year of age. Probably a large part of these deaths were caused by diarrheal diseases, but as the regis-

tration law now stands and is administered, it appears to be no great obstacle to the hiding of a murder, either of infant or adult. It would seem reasonable that in this city the body of no human being should be buried until some competent medical man has given a certificate founded upon his own knowledge of the case, or on his belief after due investigation, as to the cause of death.

SOME COMPARISONS OF VITAL STATISTICS FOR THE LAST SIX YEARS.

| | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. |
|--|--------|--------|--------|--------|--------|--------|
| Population, revised estimate..... | 37,884 | 39,032 | 40,215 | 41,433 | 42,689 | 43,983 |
| Number of deaths, exclusive of still-births..... | 733 | 725 | 708 | 853 | 764 | 901 |
| Deaths per thousand of population..... | 19.35 | 18.57 | 19.84 | 20.59 | 17.90 | 20.49 |
| Deaths of children under 5 years..... | 312 | 313 | 356 | 397 | 353 | 434 |
| Ratio, deaths of children to total deaths, per cent..... | 42.56 | 43.17 | 44.61 | 46.54 | 46.20 | 48.17 |
| Deaths of children per thousand of population..... | 8.34 | 8.02 | 8.85 | 9.58 | 8.27 | 9.87 |
| Deaths from zymotic diseases..... | 231 | 205 | 236 | 227 | 199 | 222 |
| Deaths from zymotic diseases per thousand of population..... | 6.10 | 5.25 | 6.37 | 5.48 | 4.66 | 5.72 |
| Cholera infantum..... | 89 | 115 | 148 | 115 | 86 | 141 |
| Consumption..... | 93 | 109 | 93 | 109 | 79 | 94 |
| Croup..... | 12 | 21 | 25 | 24 | 23 | 15 |
| Diphtheria..... | 18 | 9 | 17 | 30 | 23 | 9 |
| Bronchitis, all forms..... | 29 | 11 | 29 | 37 | 35 | 38 |
| Pneumonia, all forms..... | 42 | 26 | 39 | 45 | 38 | 58 |
| Heart disease, all forms..... | 40 | 37 | 45 | 23 | 47 | 43 |
| Scarlet fever..... | 5 | 0 | 4 | 1 | 5 | 3 |
| Typhoid fever..... | 20 | 12 | 17 | 12 | 16 | 17 |
| Measles..... | 36 | 5 | 8 | 9 | 4 | 6 |
| Whooping-cough..... | 11 | 3 | 1 | 5 | 6 | 4 |
| Small-pox..... | 3 | 0 | 0 | 0 | 0 | 0 |
| Births reported..... | 1,106 | 1,207 | 1,391 | * 830 | * 872 | |
| Births per thousand of population..... | 29.19 | 30.92 | 34.59 | 20.03 | 20.42 | |
| Marriages reported..... | 404 | 451 | 473 | 439 | 506 | 463 |

* The returns are manifestly incomplete.

The national census taken in June last showed the population of the city to be 43,983, and indicated an annual increase since 1880 of a little more than three per cent. This is slightly larger than the annual estimates of this Board for the past four years as given in the tables of comparisons in previous reports. In the preceding table these estimates have been revised in the light afforded by the census, and are believed to be substantially correct. It is gratifying to find the growth of the city outrunning our estimates. At present the increase is estimated at one hundred per month.

SANITARY NEEDS OF THE CITY.

A brief notice of some of the more obvious of these will close this report. Some of them are within the scope of the powers intrusted to this Board, and it will be our endeavor to meet them to the full extent of our ability with the limited means at our command. Others can only be secured by the action of other departments of the city government, and by enlightenment of the general public opinion.

1. We need the abolishment of a large number of privy-vaults and stable cellars situated in the compact part of the city.

2. A better way of disposing of the waste of the city. The swill is now carried away two miles from the City Hall by a contractor and fed to swine. The other rubbish is collected by the highway department and dumped into ravines and low places in proposed streets. These dumps are nearly as foul and evil-smelling as they were when the swill went into them. The work of the contractor has made but slight improvement in their character. The whole mass of rubbish should be burned in a furnace constructed for that purpose.

3. A frequent examination by a competent veterinary surgeon of all the cows from which milk is brought into the city, including their housing and feeding.

4. A more enlightened and vigorous public sentiment in regard to the protection of our water supply. The experience of other cities and the researches of scientific men admonish us that the apathy of our people in this regard is little short of criminal

negligence. The building of dwellings and boathouses with one end hanging out over the lake, and even in some cases wholly on piles standing in the water, should be stopped. The two uses of the lake as a place of summer resort and as a source of water supply are incompatible with each other. The city should at once acquire a belt of land at least one hundred and fifty feet wide, extending entirely around the lake, and on this belt no building, either permanent or temporary, for the housing of man or beast should be allowed.

5. Public baths, including an out-of-door place, under the care of a competent and reliable man, during the summer months, where the boys could learn to swim and could enjoy a bath in safety.

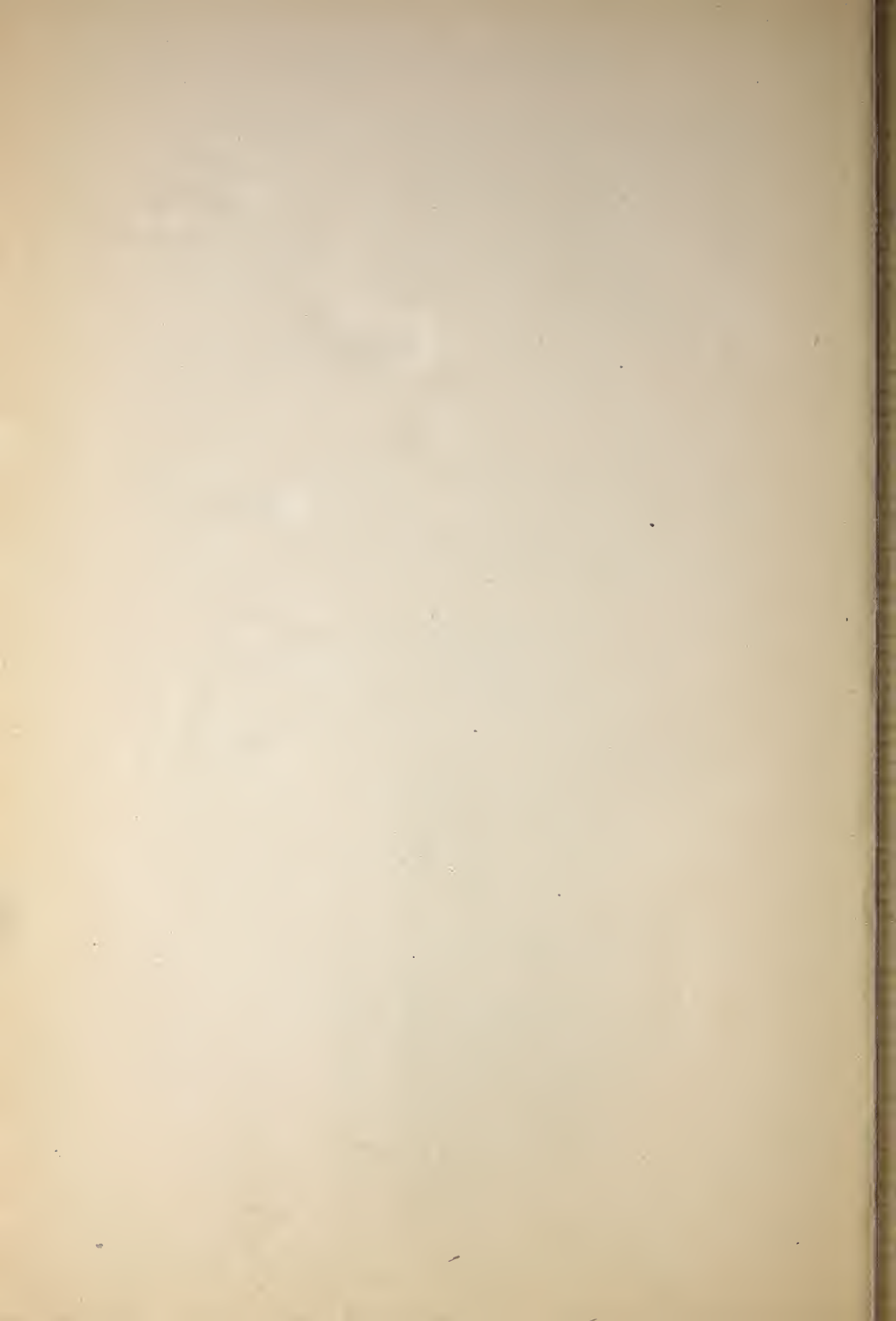
6. We need above all things of a sanitary nature the dispelling of that ignorance and apathy which tolerates filth and uncleanness in person and surroundings. When the community can be made to realize that filth and decay bear as close a relation to sickness as benzine and oily waste do to a fire, the battle will be more than half won.

Respectfully submitted.

GEORGE C. HOITT,
JOSEPH B. SAWYER,
WM. M. PARSONS,

Board of Health of Manchester.

January, 1891.



ANNUAL REPORT

OF THE

BOARD OF HEALTH

OF THE

CITY OF MANCHESTER, N. H.,

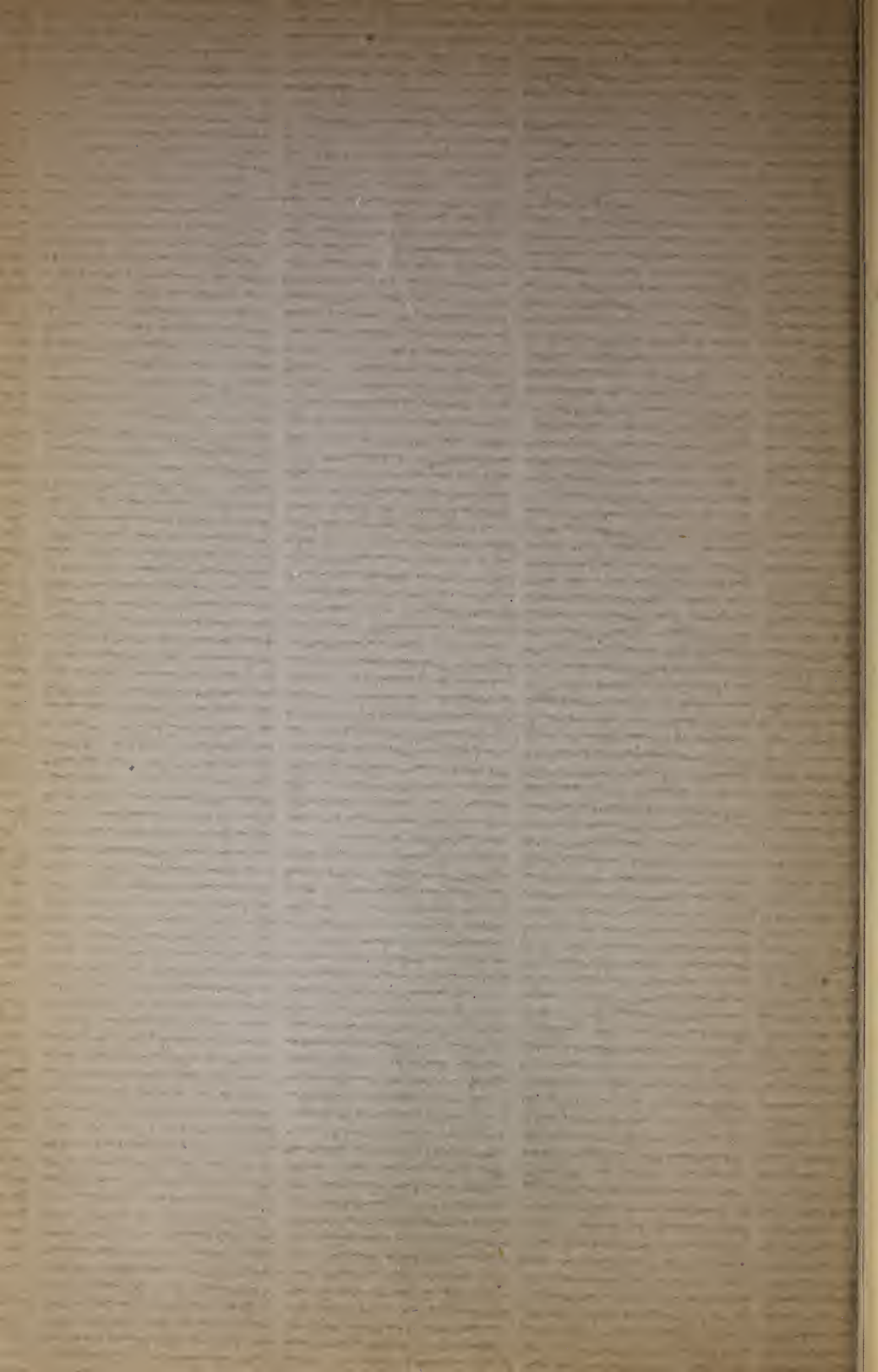
FOR THE YEAR 1891.



MANCHESTER, N. H.:

PRINTED BY THE JOHN B. CLARKE CO.

1892.

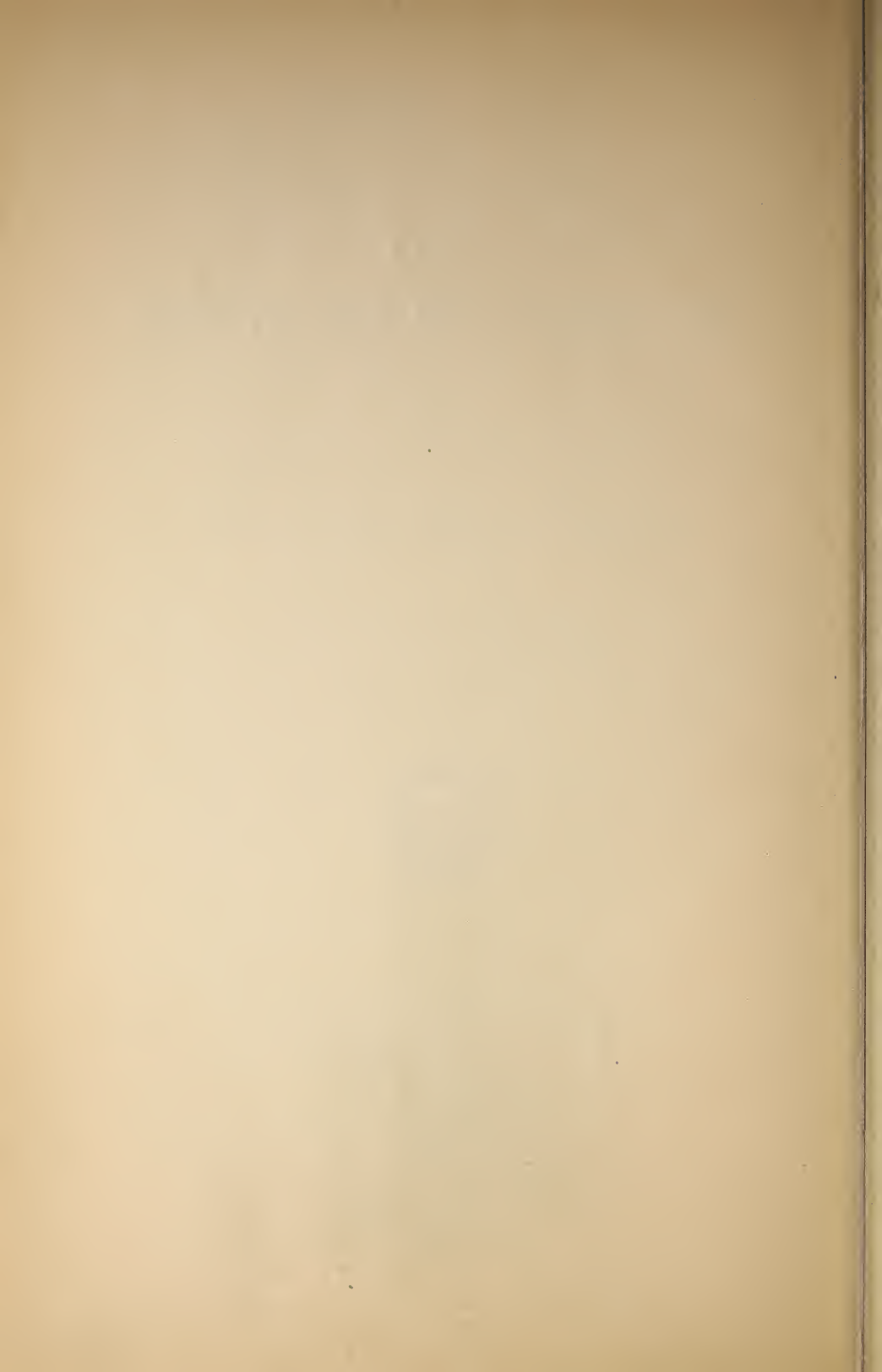


ANNUAL REPORT
OF THE
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OF THE
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REPORT OF THE BOARD OF HEALTH.

To his Honor the Mayor :

The Board of Health submits its annual report for the year 1891.

At the beginning of the year the board consisted of George C. Hoitt, M. D., chairman; Joseph B. Sawyer, C. E., clerk; and William M. Parsons, M. D. The term of Dr. Parsons expired on the first Monday in February, and Neil F. Starr, M. D., was appointed to the office. On the same day the board was reorganized by the choice of Dr. Hoitt as chairman, and of Mr. Sawyer as clerk, and the board as thus constituted and organized remained unchanged to the end of the year.

EXPENDITURES.

These have been :

| | |
|--|------------------|
| Pay of employees | \$1,203.88 |
| Street-car fares | 38.85 |
| Stationery and postage | 9.35 |
| Carriage hire | 16.75 |
| Printing and advertising | 62.52 |
| Traveling expenses | 1.30 |
| Removing dead animals, etc., | 9.25 |
| Analysis of water from suspected wells | 9.60 |
| Removing cases of infectious disease to city hospital and caring for them | 12.50 |
| Total | <hr/> \$1,364.00 |

The salaries of the members of the board, added to the above amount, make the total cost of the health department \$1,964.

WORK OF THE INSPECTORS.

Two inspectors have been employed, Mr. Russell White throughout the year, and Mr. M. J. Jenkins from March 2 to December 31. Mr. White has, under the direction of the board, had charge of the restriction of contagious diseases, the removal of dead animals, and the supervision of vault cleaners. He reports as follows :

| | |
|--|-----|
| Houses placarded for scarlet fever | 23 |
| for diphtheria | 17 |
| for measles | 83 |
| <hr/> | |
| Total | 123 |

School teachers, employers, and others have been notified of the existence of the disease whenever that precaution was necessary.

Houses containing cases of typhoid fever visited . . . 69

Privy vaults inspected after being cleaned :

| | |
|--------------------------------------|-------|
| Cleaned by Timothy McKenna | 821 |
| by Thomas Welch | 521 |
| by John T. Gott | 35 |
| <hr/> | |
| Total | 1,377 |

Dead animals removed and buried :

| | |
|------------------|----|
| Swine | 12 |
| Horses | 2 |
| Dogs | 30 |
| Cats | 9 |
| <hr/> | |
| Total | 53 |

Complaints investigated and nuisances abated . . . 154

Mr. Jenkins was employed in the investigation of complaints, the serving of notices, and a part of the time in the supervision of the vault cleaners. A large part of his work was done by personal interviews with the owners or agents of the premises, and

he secured the abatement of a large number of nuisances in that way ; but he kept no account of the number. He served formal legal notices as follows : For the removal of swine, 3 ; abatement of sink-water nuisances, 5 ; to enter sewer, 3 ; to abolish privy vaults, 31 ; to remove drains entering Mile brook, 9 ; to cleanse and repair privies, 2 ; to put dwellings in a proper sanitary condition, 5. In most of these cases compliance with the notice was secured. In some cases the owners have been reluctant and tardy. In a few others, where it appeared to the satisfaction of the board that rebuilding or extensive alterations are contemplated in the immediate future, the notice was suspended.

VAULT CLEANING.

Three parties have been licensed to do this work, viz., Timothy McKenna, Patrick Welch, and John T. Gott. It has been necessary to exercise a close and constant supervision of the cleaners in order to secure reasonably good work. This has taken much of the time of our men, and so long as it is the object of those who do the business to make money rather than to do good, satisfactory work, this supervision will be necessary. It is our belief that the licensing system should be abolished, and that the board should be given the means and the authority for vault cleaning. This is generally regarded as one branch of the legitimate work of a health department, and there is no more reason for having it done by a licensee or contractor than there is for having the duties of the fire or police department so done. The same thing is true of the scavenger service.

REMOVAL OF PRIVY VAULTS.

In the autumn of 1890 the board issued notices for the removal of all vaults on the west side of Church street between Washington and Bridge streets, and the orders were complied with in the spring of 1891. On April 11 the board determined to begin the removal of all the vaults on lots fronting on Elm street between Central and Harrison streets, and soon after the work was extended to Vine street from Amherst to Concord streets. On

August 24 it was voted to issue notices for the discontinuance of all vaults on Amherst street between Elm and Chestnut streets, and the work was begun at once. In all these districts it is now well advanced. In several instances where the vaults still remain, the water-closets which are to be substituted are partly in place. In other instances the vaults will give place to new blocks which are to be built the coming season. In a few cases a little legal coercion may be required. It is the intention of the board to finish up what they now have in hand, and to extend the work as fast as practicable.

A few vaults in other localities have been abolished at the suggestion or direction of the board, and in several instances which have come to our knowledge, the owners have substituted water-closets without any intervention of the department. It is gratifying to know of these and other evidences of the growing public sentiment in favor of better sanitation.

CONTAGIOUS DISEASES.

The number of cases of contagious diseases reported to the board in each month, with the number of deaths therefrom as reported to the city registrar, is given in the following table:

| DISEASES. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. | Deaths. |
|---------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|---------|
| Diphtheria | 7 | 3 | 2 | 1 | .... | 1 | 1 | .... | .... | 2 | 1 | 3 | 21 | 2 |
| Scarlet fever..... | 4 | 7 | 4 | .... | .... | .... | .... | 2 | 1 | .... | 3 | 4 | 25 | .... |
| Typhoid fever | 2 | 3 | 1 | 3 | 2 | 5 | 3 | 10 | 11 | 14 | 13 | 9 | 76 | 18 |
| Measles | 2 | 7 | 1 | 2 | 2 | 2 | 15 | 5 | 2 | 1 | 11 | 39 | 89 | 2 |

The next table epitomizes the history of these diseases for the last five years so far as it is known to the board :

| YEARS. | Diphtheria. | | Scarlet fever. | | Typhoid fever. | | Measles. | | Totals. | |
|-----------|-------------|---------|----------------|---------|----------------|---------|----------|---------|---------|---------|
| | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. | Cases. | Deaths. |
| 1887..... | 73 | 17 | 94 | 4 | 28 | 18 | * | 9 | * | 48 |
| 1888..... | 126 | 30 | 44 | 1 | 35 | 12 | 187 | 9 | 392 | 52 |
| 1889..... | 79 | 23 | 259 | 5 | 36 | 16 | 54 | 4 | 428 | 48 |
| 1890..... | 41 | 9 | 63 | 3 | 36 | 17 | 298 | 6 | 438 | 35 |
| 1891..... | 21 | 2 | 25 | ..... | 76 | 18 | 89 | 2 | 211 | 22 |

* No returns.

The figures giving the numbers of deaths are probably accurate, or very nearly so. Those for cases of diphtheria are thought to be approximately correct; but scarlet fever and measles have been so little feared by large numbers of our population that many cases were not put under the care of a physician, and consequently were not reported. There is need of a law like that of some other states, requiring householders to report in such cases. Occasionally some person will tell us that he knows of a bad case of some contagious disease of which we know nothing, and which requires the immediate attention of the board. When asked where the case is, he refuses to tell on the ground that he does not wish to meddle with the affairs of his neighbor. Such a course is about as foolish and pusillanimous as it would be to know that his neighbor's buildings were on fire, and his own in danger, and to refuse to give an alarm lest he should be meddling with his neighbor's business.

With regard to typhoid fever it may be said that sanitary authorities generally agree that there are eight or ten cases for every death. If that proportion holds in this city, less than one half of the cases have come to our knowledge. The state board of health, acting under authority conferred by statute, requires physicians to report all cases of this disease. It is probable that

in so grave a disease nearly every case must come to the notice of some physician, and it seems that there must be great negligence on the part of some members of the profession.

It is sometimes asked, What is the necessity of reporting typhoid fever since there is no need of isolation? The answer is that the disease is controllable by other means, which it is the business of the board to see carried into effect. Typhoid fever is one of the preventable diseases, and if all health officers, physicians, and nurses would do their whole duty it would be a rare disease. This opinion is based upon the fact that intelligent efforts to restrict it are attended with most successful results, showing that the natural history of the disease and the proper means for its restriction are well understood. The disease is not often, possibly it is never, contracted directly from the sick person by way of respiration, but the contagious principle, being eliminated in the discharges from the bowels, enters the systems of new victims by way of the stomach. The most usual carrier of the disease is the drinking-water. Fearful outbreaks have been caused by contaminated wells, and even by public water supplies. Milk also is known to be an occasional vehicle of the typhoid germ. Moreover, if there is any weight to be given to the testimony of close observers and careful investigators, then the evidence is overwhelming that typhoid fever is a filth disease, and that any mass of decomposing organic matter, such as foul privy-vaults, filthy drains, pig-stys, damp and unclean cellars or rooms, affords a fertile field for the reproduction and multiplication of the typhoid germ. It is evident from the above consideration that every case should be reported to the health department as soon as it is known, and that the department should at once take energetic measures for the restriction of the disease. To say that it is unnecessary to report because isolation does not apply is much like saying that it is unnecessary because vaccination is not called for in the case. But just as vaccination is useful in preventing epidemics of smallpox, so, probably to an equal extent, are cleanliness and the thorough disinfection of the stools useful measures in exterminating typhoid fever.

There is another phase of this subject to which in the interest

of humanity we cannot forbear to call the attention of our people. It is well known that our sewers lead directly from our homes to the Merrimack, and that the water supplies of Lowell and Lawrence are drawn from the same river. It is known also that these cities are scourged much worse than is Manchester by this disease. In Lowell the record is as follows :

| | | | | |
|-------|-----------------|------|---------|--------|
| 1889, | cases reported, | 194, | deaths, | 65. |
| 1890, | " | " | 454, | " 123. |
| 1891, | " | " | 296, | " 77. |

In the last year only thirty-three of the seventy-seven deaths were in cases which had been reported, the ratio being one in nine. If the same ratio held as to the forty-four deaths in unreported cases there were about seven hundred cases in that city last year. Their board of health says that "in our opinion typhoid fever is more to be dreaded by the population of Lowell than all other contagious diseases, and so long as the sewage of Manchester, Hooksett, Suncook, and Nashua drains into our water supply, we are surrounded by its infection and cannot escape."

It is enough that we defile the stream with all our sewage as well as with great quantities of hurtful manufacturing waste and slaughter-house drainage, without poisoning it by the dejections of our sufferers from typhoid fever. To divert the sewage from the river would require time and the outlay of a vast sum of money, albeit it is an outlay which the city will some day be obliged to make, but to keep out the poison of typhoid dejections is a duty so imperative and so easily performed that no one can willfully or carelessly neglect it and be worthy of respect as a humane man or a good citizen.

The table shows an increase of the number of cases of typhoid which, not being accompanied by a corresponding increase in the number of deaths, is probably due to better reporting on the part of physicians, and is thus more apparent than real. Other noticeable features of the table are that scarlet fever has caused no deaths, and that diphtheria and measles are each chargeable with but two, while the totals for these four of the principal com-

municable diseases show but two hundred and eleven cases and twenty-two deaths.

The mortality from these diseases is regarded by most authorities as one of the principal indices of the sanitary condition of a community, and of the efficiency and value of its health service. It would be presumption to claim that the annual diminution of the figures in the last column of the table is due solely to the work of this board, but the movement is at any rate in the right direction, and whatever may be the cause of the diminution, the table is submitted as a sufficient answer to those ignorant and irresponsible persons who, in their warfare upon the board of health, have not scrupled to slander the good name of the city for healthfulness and decency, and to represent the place as a Black Hole of filth and sickness.

TABLE

SHOWING THE MORTALITY OF THE CITY BY DISEASES AND BY
MONTHS FOR THE YEAR 1891, COMPILED FROM
THE RECORDS OF THE CITY REGISTRAR.

| CAUSES OF DEATH. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|------------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|
| Abscess..... | | | | | | | | | | | | 1 | 1 |
| “ abdominal..... | | | | 1 | | | | | | | | | 1 |
| “ of brain..... | | | | 1 | | | | | | 1 | | | 2 |
| “ mastoid..... | | | | 1 | | | | | | | | | 1 |
| Abortion..... | | | | | 1 | | | | | | | | 1 |
| Accidents not specified... 2 | | | | | | | | 1 | 1 | 2 | | | 6 |
| “ run over by cars..... | | 1 | | | | | | | 1 | | | | 2 |
| “ horse-cars..... | | | | | 1 | | | | | | | | 1 |
| “ drowned..... | | | | | | 1 | | 1 | | | | | 2 |
| “ fly-wheel burst..... | | | | | | | | | | 1 | | | 1 |
| “ asphyxia..... | | | | | 1 | | | | | | | | 1 |
| “ scalded..... | | | | | | | | | | | | 1 | 1 |
| “ coasting..... | 1 | | | | | | | | | | | | 1 |
| Alcoholism..... | | | | | | | | | | | 1 | | 1 |
| Anæmia..... | 1 | | | | | | | | | 1 | | | 2 |
| “ pernicious..... | | | | | | | | | 1 | | | | 1 |
| Aneurism, rupture of..... | | | | | | | | | | | | 1 | 1 |
| Apoplexy, not specified... 2 | 1 | | | | 1 | 4 | 1 | 1 | | 1 | | | 12 |
| “ cerebral..... | | | | | | | 1 | 1 | | | 1 | 1 | 4 |
| Asthma..... | | | | | | | 2 | | | | | | 2 |
| Blood poisoning..... | | | | | | 1 | | | | 1 | 1 | | 3 |
| Bowels, inflammation..... | 1 | | 1 | | | 1 | 1 | 2 | | | | | 5 |
| “ obstruction..... | | | | | | | 1 | | | | | | 1 |
| Brain diseases..... | | | 1 | | | | | 2 | | | | | 2 |
| “ congestion..... | | | 1 | | | | | | | | | | 1 |
| “ softening..... | | | | | 1 | | 1 | | 1 | | | 2 | 5 |
| Bright's disease..... | 1 | 2 | 2 | 1 | 1 | 1 | 2 | | | | 1 | | 11 |
| Bronchitis..... | 4 | 3 | 4 | 3 | 3 | | 3 | | | 3 | 2 | 2 | 27 |
| “ acute..... | 1 | | | 2 | | | | | | | 1 | 2 | 6 |
| “ capillary..... | | | | 1 | 1 | | | | | 1 | | 1 | 4 |
| “ chronic..... | | | | | | | | | | 1 | | | 1 |
| Cancer, not specified..... 2 | | | | 1 | 1 | | 2 | 1 | 1 | 1 | 1 | 3 | 13 |
| “ breast..... | | | | | | | | 1 | | | | | 1 |
| “ liver..... | | 1 | | | | 1 | 1 | | | | | 1 | 4 |
| “ stomach..... | 1 | | | | | | 1 | | | 1 | 1 | | 4 |
| “ uterus..... | | 1 | | | | | | | | | | | 1 |
| Childbirth..... | | | | | | | | | | | | 1 | 1 |
| Cholera infantum..... | 1 | | | | 1 | 8 | 32 | 51 | 15 | 12 | 2 | | 122 |
| Consumption..... | 9 | 8 | 3 | 10 | 6 | 9 | 5 | 5 | 11 | 5 | 7 | 6 | 84 |
| Convulsions..... | | | 3 | 1 | 3 | | | | 1 | 1 | | 2 | 11 |
| “ infantile..... | | | | | | | 2 | | | | | | 2 |
| Cough..... | | | | 1 | | | | | | | | | 1 |
| Croup..... | | | 1 | 1 | | | | | | | | 1 | 3 |
| “ membranous..... | | | | | 1 | | | | | | | 3 | 4 |
| Cellulitis, pelvic..... | | | | | | | | | | | | 1 | 1 |
| Debility..... | 3 | 4 | 2 | | | | 4 | 3 | 2 | | 1 | 3 | 22 |
| Dentition..... | 1 | | | | | 2 | | | 1 | 1 | | | 5 |
| Diabetes..... | 1 | | 1 | | | | | 1 | | 1 | | | 4 |

TABLE. — *Continued.*

| CAUSES OF DEATH. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|-----------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|
| Diabetes, millitus | | | | | | | | | | | | 1 | 1 |
| Diarrhea | | | | | | | | 1 | | | | | 1 |
| “ chronic | | | | | | | | | | 1 | | 1 | 2 |
| “ infantile | | | | | | | | | | 1 | 1 | | 2 |
| Diphtheria | | 1 | | | | | | | | | | 1 | 2 |
| Dropsy | | | | | | 1 | 2 | 1 | | | | 1 | 5 |
| Dysentery | | | | | | | 1 | 1 | | | | 1 | 3 |
| “ acute | | 1 | | | | | | | | | | | 1 |
| Embolism | | 1 | | | | | | | | | | | 1 |
| “ cerebral | | 1 | 1 | | | | | | | 1 | 1 | | 4 |
| Enteritis | | | | | | 1 | 1 | | | | | | 2 |
| “ gastric | | | | | | | 3 | 1 | 2 | | | | 6 |
| Epilepsy | | | | 2 | 1 | | | | 1 | | | | 2 |
| Exhaustion | | | | | | | | | | | | | 2 |
| Fever, not specified | | | | | | | | | 1 | | | | 1 |
| “ malarial | | | | 1 | 1 | | | | | | | | 1 |
| “ typhoid | 2 | 2 | | 1 | | 1 | | 3 | 1 | | 8 | | 18 |
| Gangrene | | 1 | | | | | | | 1 | | | | 2 |
| Gastritis | | 1 | | 1 | | | | | | | | | 2 |
| Goitre | | | | | | | 1 | | | | | | 1 |
| Grippe | | | | | | | | | | | | 3 | 3 |
| Headache | | | | | | | | | | | | 3 | 3 |
| Heart disease | 2 | 1 | 1 | 6 | 4 | 2 | 4 | 4 | | 3 | 1 | 2 | 30 |
| “ valvular | | | | | | 1 | 1 | 1 | 2 | | 1 | | 6 |
| “ enlargement | | 1 | | | | | | | | | | | 1 |
| “ fatty degeneration | | | | 1 | | | | | | | | | 1 |
| Hemiplegia | | | | | | 1 | | | | | | | 1 |
| Hemorrhage, cerebral | | | | | | | | | | 1 | | | 1 |
| “ internal | | | 1 | | | | | | | | | | 1 |
| “ lungs | | | | | | | 1 | | | | | | 1 |
| Hepatitis | | | 1 | | | | 1 | | | | | | 2 |
| “ chronic | | | | | | | | | | 1 | | | 1 |
| Hernia, strangulated | | | | 1 | | | | | | | | | 1 |
| “ femoral | | | | | | | | | | 1 | | | 1 |
| Hip disease | | | | | | | | 1 | | | | | 1 |
| Hidrocephalus | | | 1 | | 1 | | | | | | | | 2 |
| “ acute | | | | | | | | | | 1 | | 1 | 2 |
| Inanition | | 1 | | | | | | 2 | | | 1 | 1 | 5 |
| Influenza | | | | 2 | 2 | | | | | | | | 4 |
| Insanity | | | | | | 1 | | | | | | | 1 |
| Kidney disease | | | | | | | | | | 1 | 1 | | 2 |
| Laryngitis, croupous | | | | | | | | | 1 | | | | 1 |
| “ tubercular | | 1 | | | | | | | | | | | 1 |
| Liver disease | | | | 1 | | | 1 | 1 | | 1 | | | 4 |
| “ chronic | | | | | | 1 | | | | | | | 1 |
| “ cirrhosis | | | | | | | 1 | | 1 | | | | 2 |
| “ congestion | | 1 | | 1 | | | | | | 1 | | | 3 |
| “ acute y'l'w atrophy | | | | | 2 | | | | | | | | 2 |
| Locomotor ataxia | | | 1 | | | | | | | | | | 1 |
| Lungs, congestion | | | | | 1 | 1 | | 1 | | | 1 | | 4 |
| “ inflammation | | | | | 1 | | | | | 1 | | 1 | 3 |
| Marasmus | | | 1 | | | 1 | 1 | 2 | 2 | | | | 8 |
| Measles | | | | 3 | | | | | | | | | 3 |
| Meningitis | 3 | | 2 | | | 3 | 1 | 2 | 1 | 1 | | 2 | 18 |
| “ acute | | | 1 | | | | | 1 | | | | | 2 |

TABLE. — *Continued.*

| CAUSES OF DEATH. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. | Total. |
|------------------------------|----------|-----------|--------|--------|------|-------|-------|---------|------------|----------|-----------|-----------|--------|
| Meningitis, cerebral..... | | | | 1 | 1 | | 1 | | 1 | 1 | | | 5 |
| “ cerebro-spinal | | 1 | 1 | | | | | | | | | | 2 |
| “ tubercular | | | | | | | | | | 1 | | | 1 |
| Metritis | | | 1 | | | | | | | | | | 1 |
| Metro-peritonitis | | | | 1 | | | | | | | 1 | | 1 |
| Miscarriage | | | | | | | 2 | | | | | | 1 |
| Neuralgia of heart..... | | | | | | 2 | | | | | | | 2 |
| Nephritis | | | | 1 | | 1 | | 1 | | | | | 1 |
| “ acute | | | | | | | | | | | | | 2 |
| “ chronic | | | | | | | | | | 2 | | | 2 |
| Edemia glottidis..... | | | | | | | | | | 1 | | | 1 |
| Old age | 4 | 2 | 3 | 1 | 1 | 1 | | | 1 | 2 | | 5 | 20 |
| Paralysis | | | 1 | | 3 | 1 | 1 | | 1 | | | 1 | 8 |
| “ progressive..... | | | | | 1 | | | | | | | | 1 |
| Pericarditis | | | | | 1 | | | | | 1 | | 1 | 2 |
| Peritonitis | | | | 1 | | 1 | | 1 | | | 1 | | 4 |
| Pleurisy | | | 1 | | | | | | | | | | 1 |
| Pleuro-pneumonia..... | | | | | | | | | | | | 1 | 1 |
| Pneumonia..... | 6 | 5 | 7 | 5 | 6 | 3 | 1 | | 2 | 2 | 3 | 20 | 60 |
| “ acute | | 1 | 1 | | | | | | | | | | 2 |
| “ bronchial | | | | | | | | | | | | 1 | 1 |
| “ catarrhal | | | | | | | 1 | | | | | 1 | 2 |
| “ typhoid | | 1 | 2 | | 2 | | | | | | | 2 | 7 |
| Premature birth..... | 3 | 4 | 3 | | 1 | 2 | 1 | | | 1 | 1 | | 16 |
| Rachitis | | | | | | | 1 | | | | | | 1 |
| Rheumatism | | | | 1 | | | 1 | | | 1 | | 1 | 4 |
| “ acute..... | | 1 | | | | | | | | | | | 1 |
| Stricture of œsophagus | | | | | | 1 | | | | | | | 1 |
| Septicæmia | | 1 | | | | | | | 1 | | 1 | | 3 |
| Stomach, inflammation..... | | | | | | | | | | 1 | | | 1 |
| Suicide, not specified..... | | | | | | | | 1 | | | | | 1 |
| “ arsenic | | | | | | | | | 1 | | | | 1 |
| Syphilis, hereditary..... | | | | | | | 1 | | | | | | 1 |
| Tuberculosis | | | | 1 | 1 | | | | | | | 1 | 3 |
| “ acute | 1 | | 1 | | | | | | | | 1 | 1 | 4 |
| Tumor in bladder..... | | | | | | 1 | | | | | | | 1 |
| “ uterine | | | 1 | | | | | | | | | | 1 |
| “ brain | | | 1 | | | | | | | | | | 1 |
| Ulcer of duodenum | | | | | | | | | | | 1 | | 1 |
| “ gastric | | 1 | | | | | | | | | | | 1 |
| Weakness | | | 1 | | | 1 | 2 | | | | | | 4 |
| Whooping-cough..... | 1 | 1 | | | | 1 | | 1 | 1 | | | | 5 |
| Unknown | | | | | | | | 1 | | 2 | | 1 | 4 |
| Not stated..... | 5 | 4 | 6 | 2 | 6 | 6 | 16 | 23 | 10 | 12 | 7 | 17 | 114 |
| Still-born | 8 | 4 | 3 | 4 | 5 | 7 | 5 | 2 | 4 | 4 | 5 | 3 | 54 |
| Totals..... | 66 | 58 | 63 | 62 | 62 | 70 | 109 | 124 | 70 | 83 | 55 | 112 | 934 |

SOME COMPARISONS OF VITAL STATISTICS FOR THE LAST SEVEN YEARS.

| | 1885. | 1886. | 1887. | 1888. | 1889. | 1890. | 1891. |
|--|--------|--------|--------|--------|--------|--------|--------|
| Population, revised estimate..... | 37,884 | 39,032 | 40,215 | 41,433 | 42,089 | 44,126 | 45,500 |
| Number of deaths, exclusive of still-births..... | 733 | 725 | 798 | 853 | 764 | 901 | 880 |
| Deaths, per thousand of population..... | 19.35 | 18.57 | 19.84 | 20.59 | 17.90 | 20.40 | 19.34 |
| Deaths of children under 5 years..... | 312 | 313 | 356 | 397 | 353 | 434 | 393 |
| Ratio, deaths of children to total deaths, per cent..... | 42.56 | 43.17 | 44.61 | 46.54 | 46.20 | 48.17 | 44.66 |
| Deaths of children per thousand of population..... | 8.24 | 8.02 | 8.85 | 9.68 | 8.27 | 9.87 | 8.64 |
| Deaths from zymotic diseases..... | 231 | 205 | 256 | 227 | 199 | 252 | 181 |
| Deaths from zymotic diseases per thousand of population..... | 6.10 | 5.25 | 6.37 | 5.48 | 4.66 | 5.72 | 3.98 |
| Cholera infantum..... | 89 | 115 | 148 | 115 | 86 | 141 | 122 |
| Consumption..... | 93 | 109 | 93 | 109 | 79 | 94 | 84 |
| Croup..... | 12 | 21 | 25 | 24 | 25 | 15 | 7 |
| Diphtheria..... | 17 | 9 | 17 | 30 | 23 | 9 | 2 |
| Bronchitis, all forms..... | 29 | 11 | 29 | 37 | 35 | 38 | 38 |
| Pneumonia, all forms..... | 42 | 26 | 39 | 45 | 38 | 58 | 72 |
| Heart disease, all forms..... | 40 | 37 | 45 | 23 | 47 | 43 | 38 |
| Scarlet fever..... | 5 | 0 | 4 | 1 | 5 | 3 | 0 |
| Typhoid fever..... | 20 | 12 | 17 | 12 | 16 | 17 | 18 |
| Measles..... | 36 | 5 | 8 | 9 | 4 | 6 | 2 |
| Whooping-cough..... | 11 | 3 | 1 | 5 | 6 | 4 | 5 |
| Small-pox..... | 3 | ..... | ..... | ..... | ..... | ..... | ..... |
| Births reported..... | 1,106 | 1,207 | 1,391 | * 830 | * 872 | 965 | 985 |
| Births per thousand of population..... | 29.19 | 30.92 | 34.59 | ..... | ..... | ..... | ..... |
| Marriages reported..... | 404 | 461 | 473 | 439 | 506 | 463 | 549 |

* The returns are manifestly incomplete.

These tables are as nearly perfect as they can be made from the city registrar's books. With respect to the number of deaths, they are believed to be substantially correct, but in other respects carelessness and ignorance in making returns have marred the usefulness and perfection of the record, and have to an equal extent vitiated the tables. In more than one eighth of the cases the cause of death is not given, and some of the causes which are given, such as "cough" and "headache" might as well have been omitted.

It is believed that the importance of these records is not appreciated as it should be. Aside from their value and interest to the sanitarian and statistician, they have a value as evidence in questions of citizenship, inheritance of property, pension claims, and divorce, and are of interest to the antiquarian and genealogist. Unlike many other records, these, if well kept, will have a permanent and increasing value. The statute recognizes this value and has provided liberal compensations for returns and registration.

These tables compare favorably with those of other New England towns of similar size and with a similar population.

The "grippe" has left its mark upon the record. In the month of December it caused three deaths in its own name, twenty-four were charged to pneumonia, and four to croup, swelling the list for the month to one hundred and twelve, as against seventy-one for the corresponding month of the previous year. The recent visitation of this disease, whether estimated by the amount of sickness and loss of time which it has caused, or by the number of valuable lives cut short, is probably the most calamitous pestilence that has ever visited the adult population of the country. It appears to be a disease against which boards of health and physicians are nearly powerless. Let us hope that means for its restriction and cure will soon be discovered.

Another noticeable feature of the tables is the high death rate of children under five years of age. Annually from 42 to 48 per cent of our deaths are of this class, and they occur largely among our foreign population. Cholera infantum is the principal cause. It is a disease but slightly controllable by public sanitation, unless

it is seconded by intelligent care and regimen in the particulars of diet, bathing, clothing, and fresh air. The department has a great responsibility in this matter, but so long as people will crowd into tenement blocks, and be careless, ignorant, and stupid, this disease will continue to decimate the children.

The absence of deaths from scarlet fever is noticeable, as is also the small number of deaths from this cause in the preceding years. The disease has almost ceased to be feared ; and herein lies a possible danger. It may at any moment assume its old-time malignity, when it stalked abroad under the names of canker rash and putrid sore throat.

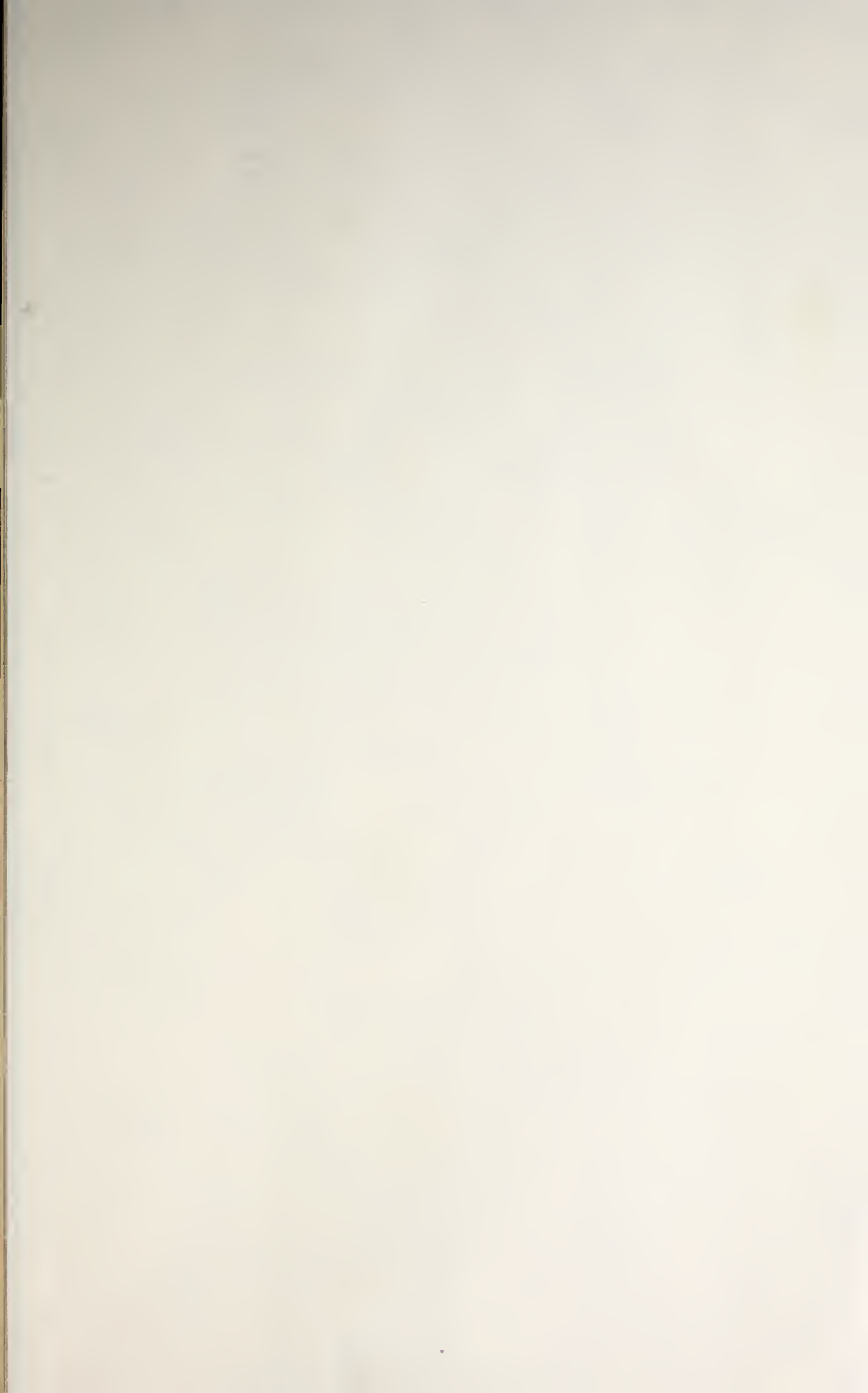
In conclusion, we take great pleasure in testifying to the harmonious and helpful relations which have existed between the board of health and city councils, and especially, sir, in acknowledging the many helpful and kindly acts and words of your Honor.

Respectfully submitted.

GEORGE C. HOITT,
JOSEPH B. SAWYER,
NEIL F. STARR,

Board of Health of Manchester.

MARCH, 1892.





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Indiana Plant

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8/22/2006

